THE ART OF MAGNETIC HEALING

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THE ART
OF
MAGNETIC HEALING

by

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DEDICATED TO

The benevolent souls who strive devotedly to seek the universal truth for the ultimate good of the humanity.

Preface

Since time immemorial the man has strived to find all such healing agents that offer even slightest promise to alleviate the suffering of the ailing humanity. Our ancestors sifted out almost all such remedial agents, be these of plant or animal or mineral origin. The search has continued till today. Of the many curative elixers and secret formulae left behind by them and which form a part of the rich legacy inherited by *the modern generation, the simplest form of cure is offered by* magnetism. Today, we have unravelled the scientific aspects of the treatment through magnets by planned experiments.

Like any therapeutic system, the science and art of Magnetic Healing requires to be mastered to obtain desirable cures. Hence every student of Magnetotherapy—as it has now come to be known—must learn the basics of magnetism, effects of *magnets on living tissue, magnetic affinity of* the human body, cellular magnetism, techniques of application of magnets in various diseases, individual susceptibility to magnets, and the practical aspects of magnetotherapy. Thus, the scope of the present book includes all the above aspects as well as other accessory information on related aspects like case-taking, preparation of healing water and healing oils, concept of suppression and rational cure, and necessary precautions in magnetic application. Therefore, the book has been made as comprehensive as possible along with the description, causes, effects and precise techniques of application of magnets in various diseases as well as numerous case studies to provide consummate guidance on all practical aspects.

It is the long-cherished desire of the author that the serious-minded magnetotherapists and students of this scientific

and rational system of treatment will be motivated by this book to strive to appreciate better the aspects of health rather than disease and would probe deeper into the human organism. This would help them to verify the scientific facts given herein and to corroborate the findings of numerous magnetotherapists all over the world. This, by and by, would place this system on a scientific footing. The author has unhesitatingly shared his vast experience with the fellow magnetotherapists with the fond hope that some of the so-called incurable and painful afflictions of the mankind would find an easy and permanent cure through this novel method of healing which is based on the natural laws.

This book includes answers to almost all the searching enquiries which a rational mind is tempted to put forth to any practitioner of this system of treatment. These enquiries generally arose at a number of scientific meetings at which the author had occasions to talk on this subject. During the past few years a number of articles have appeared in leading Indian magazines which have generated considerable interest among the medicalmen of various systems of treatment. The promising results that this new therapy has offered in a score of diseases like cervical spondylosis, rheumatism, kidney-stone and disorders of bowels have now aroused world-wide interest in this therapy notably in India and in the countries like USA, USSR, Peurto Rico, Japan and Germany. Gradually, this ancient system of treatment based on the wisdom of our ancestors is being revived for the ultimate benefit of the mankind irrespective of the caste, creed, religion and sex. Surprisingly, inspite of the tremendous advances made in the medical science, the medical scientists are now looking hopefully at the benevolent effects of magnets in the cure of the most dreaded diseases like cancer and a number of physicians are engaged in the exclusive use of magnets in the treatment of cancer.

As a number of clinical reports on the therapeutic uses of magnets are pouring in, all magnetotherapists the world over feel proud of the simple and effective medical tool in their hands. Let us therefore join hands in this mighty task of health and disease and serve our suffering brethren who desperately wait to be released from the tortuous clutches of disease.

It is therefore with this motive that the author undertook the preparation of this book. It is his fond hope that the profession will find the work useful in their day-to-day practice. Even if this book helps any physician in the mitigation of the pain and agony of a single hapless patient, the author will feel that the enormous effort put in the preparation of the book is amply rewarded. Any suggestions, verifications and corrections covering the contents of this book will be gratefully acknowledged.

New Delhi M.T. SANTWANI

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Dr Parmesh Chandra for his help in checking the manuscript, proofs and figures and offering helpful suggestions at every stage of this book. He also made available to me a number of valuable books from his personal library which proved to be highly useful in the preparation of this book.

Dr Shashi Rustgi, the well-known acupuncturist, for her expert help in aspects relating to acupuncture as also going through the manuscript and acupuncture charts. She also made available a number of books from her personal library for my reference.

Dr Prem Nath Jain (M/s Jain Publishing Co., New Delhi) for his timely suggestion to bring out a comprehensive work like this which could be more practical and handy for lay readers who needed the technical information in an easy-to understand style. His advice on the overall get-up, general layout and the title-cover proved to be highly useful in bringing out the book in the present form.

Dr H.L. Bansal for placing at my disposal facilities available in his clinic and vast literature on bio-magnetism for my use, which greatly facilitated the preparation of the book.

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Lastly, I acknowledge the help derived from a number of books and periodicals by various authors, to make this book self-explanatory and useful to the students and the profession.

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M.T. Santwani

Contents

1

Introduction

> There is nothing in the world which does not have therapeutic utility.
>
> **Charaka** : *Sutra* 26 : 12

Ancient wisdom in the spheres of art, sculpture, architecture, religion, spiritualism and medicine has stood the test of the time. The ancient sages and seers understood the importance of living in consonance with the laws of the Nature which brought peace, harmony and tranquility in their living and equipped them for higher purposes of the existence They realized the use of pure air, pure and simple food and living in surroundings as natural as possible which purified their thoughts, their intentions and made them live a healthy life. These surroundings also endowed them with kindness, wisdom and powers of intuition. Or else how can we explain the astonishing details of different planets, their celestial courses and configurations, when a telescope is only a recent development.

How did the *rishis* and *munis* understand and describe the therapeutic properties of almost all the minerals, plants and animals and their utilization in numerous diseases. The devotion and knowledge combined with their intuitional

powers has given to the modern man such versatile medicines and elixirs that these are used through centuries down to our so-called modern age. Charaka and Chyavan are among those who are well known for their masterly exposition of life and disease. For instance, Charaka has covered almost the entire range of principles and practice of medicine which is valid even today. Chyavan *rishi* with his deep knowledge of wild plants and trees prepared a number of medicines like *chyavan prash* which are used against debility and cough and cold, even today.

Why should we use these ancient formulae today in this atomic age when the miracle medicines have replaced the good old granny's recipes? The answer is simple. Our ancestors derived more from the all-wise nature than from the artificial salts and synthetic drugs. They perceived into the intricate human organism as a whole and not a mere assembly of assorted organs which apprarently had no inter-relationship. They perceived into the grand design of nature—the negative and positive forces. They sought for the positive therapeutic sources from the nature for the negative disease forces and defined various constitutions and hence were capable of bringing about a perfect cure rather than a short-lived relief which is often to the detriment of the patient.

Our ancestors also approached the concept of health and disease on a more rational basis. They understood all the factors that deranged the vital force in a man and accepted with an open mind everything that had therapeutic properties. Thus they could use with wisdom all the agents from the obviously innocuous garlic to magnet, from *amla* to arsenic, from turmeric powder to snake poison for the cure of various ailments. That is the real scientific attitude tempered by sincere devotion, wisdom and intuition

It is difficult to guess how the ancients understood the magnetism of the earth and the other celestial bodies in the

universe and its effect on life and disease. The age-old concept of fasting on new-moon and full-moon days when the lunar effect on the liquids and all other fluids is tremendous have now been properly understood and considered as scientific. On those days, all the martial humours (all the fluid and semi-fluid substances in the body containing iron) are attracted under the influence of moon and can thus lead to severe mental and emotional problems The fasting therefore ensures reduction *in body fluids* on those days to avoid these abnormal effects on the human organism.

Similarly, we come across instances, where the magnet or loadstone as it is also called was used to cure disease, especially for stopping bleeding in women *Atharva veda* which is the basis for *Ayurveda* includes a number of *slokas (verses) where the use of magnets (often called ashman or ashma in Sanskrit)* were used against bleeding. Thus two of the typical slokas translated in English are as follows,

Of these hundred entails of thine
As well as of the thousand canals (carrying blood),
Of all these have I closed
The openings with a stone (magnet)
The upper part of the womb do I place below
There shall come thee neither offspring nor birth
I render thee sterile and devoid of offspring
A stone (magnet) do I make into a cover for thee.

Similarly, it was believed in the early days that a person in the last moments of his life should be made to sleep in the north-south direction, head towards north and feet towards south—to induce magnetic parallelism between the earth and the body. This brought peace, tranquility, mitigation of pain and less suffering while departing from the world.

Coming to the comparatively recent civilizations like those of Egypt we find the astounding knowledge and use of magnetic forces in the day-to-day life of the nation. The pyramids are the living testimony to the scientific and strategic entrapment of the magnetic forces which can preserve the mummies from decay and degeneration. We look at these giant preservers of culture with inexplicable awe and amazement even with all the modern resources at our command.

An interesting episode in a British museum sometime ago may come as a proof to the intricate magnetic designs of the Egyptian mummies. The British museum obtained and kept for display an Egyptian mummy. One day in the forenoon, the visitors to the museum were fear-striken at the loud explosion and ran helter-skelter to save their skin. Later it was found that the glass-covering of the casket accommodating the Egyptian mummy broke off violently—the mummy rose up to it's waist, rearranged the direction of the casket and 'slept' again. It was later realized that the casket was unknowingly placed without due regard to the earth's magnetism which resulted in the explosive rearrangement. The episode is described in great detail in the museum records.

The extra-ordinary beautiful princess of Egypt constantly wore a small magnet as an amulet on her forehead which is believed to be the secret of her beauty and youthful charm.

Following the line right in the 4th to 8th century before Christ we find Greek philosophers Aristotle, Plato and Homar describing and using magnets for different purposes. Thus the line continues and brings us to Mesmer and Hahnemann—two contemporaries in the eighteenth century who brought the touch of magnets to the healing level—Mesmer by human magnetism, that is by personal touch and Hahnemann by magnetic rods. We find their observations and astonishing

cures of human ailments recorded clearly and beautifully in various books. Today, with the advances in the sciences like physics, chemistry, biology, magnetism, electricity, pharmacology and bio-magnetic engineering, the scientists have not only corroborated the findings of our ancestors regarding therapeutic value of magnets but have also added wealth of information on the biological effects of magnets. They have carried out the experiments with magnets on bacteria, virus, plants and animals to ascertain the precise nature of physical and physiological changes in them as well as the therapeutic effects. These experiments which will be discussed in a later chapter have proved in no uncertain terms that the magnetic fields have a positive and strong influence on all the living creatures in the world. Certain countries like USA, USSR and Japan have excelled in such studies and have been able to precisely define the benefits through magnets. For instance, in Japan a number of magnetic articles like magnetic necklaces, magnetic belts, magnetic bands and magnetic chairs are being used to treat patients suffering from different pains, frozen shoulders, rheumatism and arthritis; while in USSR magnetised water (the water which has been subjected to magnetic emanations for some time) is being used against painful urination as well as stone in kidneys and ureters. Some of the enthusiastic farmers in the above countries irrigated their plants with magnetised water and have surprisingly produced giant-sized tomatoes, brinjals and pumpkins. In the United Kingdom, magnet is now a valuable aid in separation of red blood cells from other type of cells and plasma of the blood which now replaces the age-old tedious chemical method of the separation of the red blood cells. In USA, more emphasis with regard to the use of magnet is placed on the treatment of cancer as the scientists have been convinced with the effects of the magnets in retarding and remission of tumours as well as checking the proliferation of the malignant cells in the body. Therefore, a strong line of therapeutics is

now developing in the above countries in the treatment of numerous diseases that plague the mankind.

Some of the scientists who have been working on the effects of the earth's magnetism as well as the effects of solar flares and sunspot activities (the unusual storms of the sun cause solar flares ; the activity of the sun is measured by the number of sunspots visible on the solar disc which show the alternate cycles of activity and relative calm) have found that these cause disturbances in the earth's magnetism thus leading to many biological changes in the living beings including the heart attacks. In addition, the solar wind and the interplanetary magnetic field of the solar system provide further links between the sun activity and the spin of the earth. Thus, it has been found that sudden fluctuations in the earth's magnetism can result in grave consequences for the living beings.

It has also been found that different organs of the human body produce fluctuating magnetic fields due to the different chemical activities in the body which means that every cell in the human body has a specific magnetic value and thus suggests the obvious link between the body and the external atmosphere. The highest magnetic field is produced by the brain during sleep followed by the magnetic field of the heart which can now be precisely measured through various instruments and any change in the magnetic value can lead to a fruitful forecast of an impending danger to an organ. The scientists are now working on the theory that the magneto-encephalograms (MEG) and the magneto-cardiograms (MCG) provide much more relevant information about the damage to the brain and heart as compared to the traditional electro-encephalograms (EEG) and electro-cardiograms (ECG) respectively.

The present experiments have been carried out as far as to the assessment of the precise physical, physiological and therapeutic differences in the north and south poles of a magnet. Broadly, it has been found that the north pole has anti-biotic properties (it can retard or control the infection) and the south pole has energy-giving properties (it can provide warmth and energy to different organs). Thus, north pole has been found useful in diseases where infection is at the root of the trouble while the south pole has been found more useful in cases of pains, swellings, stiffness, etc. Similarly, the magnetised water produced separately from north and south poles serves a potential agent against infection, anemia, painful urination, kidney stone, etc.

Now the world over, the scientists are looking for simpler and surer methods of treatment for the various diseases specially those that have defied the prevalent system of medicine. The accent is now shifting from the artificial and harsher modes of treatment to the more natural methods like those of magnetism for various diseases. Surely enough, therefore, the medical man finds the magnet a very useful tool which not only provides surer relief in certain diseases but also works in consonance with other natural laws No wonder, therefore, some of the pioneers like Dr Madeline F Barnothy, Professor of Physics, College of Pharmacy, University of Illinois, USA forecast in true optimism that 'Magnetic field will in due time develop into a powerful new analytic and therapeutic tool of medicine.'

In India today, a number of physicians from all systems of medicine is now deriving benefit from the benevolent emanations of the magnets in the treatment of numerous diseases of mankind and finds success in the management of a number of diseases especially those which are painful and which make the patient a virtual cripple. Many

magnetotherapy clinics have been established in different parts of the country and a number of magnetotherapy camps have been organized where in-door and out-door patients are treated with a new hope of cure.

This treatise written in a simple style for a layman therefore would induce thinking and would motivate a number of persons who have the welfare of the society as their first love to take advantage of the simple and effective ancient art of treatment which comes down from our *rishis* right upto the modern medical man. We are lucky and feel proud of the rich ancient heritage by way of this medical art left behind by our ancestors with the fond hope that their future progeny will, one day, take advantage of this natural science.

2

Human Body—Nature's Perfect Design

We are carefully to preserve that life which the author of Nature has given us, for it was no idle gift.

Harvey W. Wiley

The human body represents the nature's highest evolution right from the most primitive single-cell structures to the complex multi-cellular organism. It is a machine unmatched in its design, unparalleled in the integrity of its functional systems and unfathomable in the depth of subtle and natural emotions. It is a challenge to the man's best creation in so far as the utility, the art and the beauty of the structure as well as the capacity and the length of service it can give. For example, the human heart which is barely 15-cm long and 10 cm across pumps blood through about 90,000 kilometers of blood vessels enough to fill "18000-litre tank". It keeps working day and night as long as for 70-80 years as it is expected to do. The man has so far not devised such an efficient pump which can work so effectively and for such a length of time.

The human organism is composed of cells, tissues, organs and systems of organs which are closely interconnected and affect each other. In the human body, there are numerous organs, *i.e.* bones, muscles, stomach, heart, brain, spinal cord, etc. Each organ has a complex structure and carries out a definite function. All organs are supplied with blood vessels

and nerves and those with similar functions are united to form systems of organs, namely, bony system, muscular system, digestive system, respiratory system, urogenital system, circulatory system, nervous system, etc, as well as the system of sense organs. The digestive, respiratory and urogenital organs are called internal organs or viscera and are protected inside the thorax (chest), abdominal and pelvic cavities. The bones and their articulations form human skeleton which provide shape to the body and protect the internal organs. It is, therefore, considered necessary that the readers should be conversant with the anatomical and physiological features of various systems functioning in the human body so that the discussion ahead provided in different chapters can be easily understood and can be more practically utilised.

Skeleton

Various bones in the arms and legs, the cage of ribs in the chest, a triangular pelvic bone, the backbone and the skull form the human skeleton which helps in supporting all the other organs and gives the body a definite shape (*see* Fig. 1). Together with muscles it helps in different types of movements. A bone consists of bony tissue and the inside core called bone-marrow which is a spongy substance. The red bone marrow of certain bones produces blood cells. A bone consists of organic substances and inorganic matter chiefly consisting of calcium salts. The organic substance in the bone provides for its elasticity while the mineral matter gives it toughness. The composition of the bones changes with age. For instance, the bone of an adult gets dried in due course and comprises two-third salts and one-third of organic substance. In childhood, the bones are richer in organic substance and hence are more elastic and flexible than those of the grown-up persons. There are different types of bones, namely, long (as those found in the arms and legs), short (as found in the fingers and toes), flat (as found in the skull, breast bones, ribs)



Fig. 1 Human Skeleton (Anterior Aspect)

1. skull ; 2. vertebral column , 3. clavicle ; 4. rib ; 5. sternum ; 6. humerus ; 7. radius ; 8. ulna , 9 carpal bones ; 10. metacarpal bones ; 11. phalanges of the fingers , 12. ischium ; 13. metatarsal bones ; 14. tarsal bones ; 15. tibia , 16. fibula ; 17. patella ; 18. femur ; 19. pubic bone ; 20. ilium

and mixed as found in the base of the skull depending upon different types of functions performed by them.

The articulation of the bones in the human body is possible mostly due to various types of joints like those at the shoulder, elbow, knee, etc. A typical bone joint comprises of a white elastic substance called cartilage which is attached to the articular bone surface and which reduces the friction between the bones; and two membranes—external fibrous membrane and internal synovial membrane which secretes viscous fluid called synovia that lubricates the joints (*see* Fig. 2).

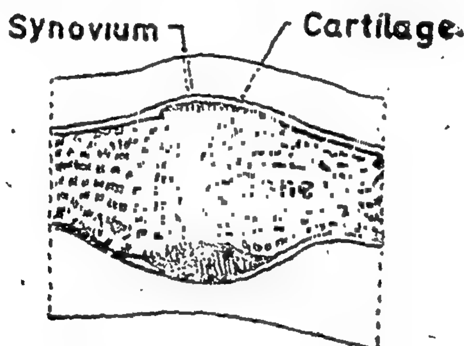


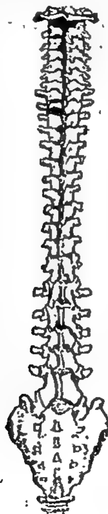
Fig. 2 Structure of A Joint

Ball and socket joints of shoulder and hip are formed by smooth rounded head of one bone fitting into the cup-shaped cavity of the other. The hinge joints are found in the elbow and knee in which the movement is possible in one plane. The joints in the wrist, foot and between the ribs and the spine can move only to a limited extent and can either rotate or slide.

The Spinal Column

The spinal column commonly known as backbone bears the weight of the body and is yet capable of bending and stretching for many years. It consists of 24 blocks of bones called vertebrae placed one over the other like a column of bricks. Seven of these bones are in the neck called cervical

vertebrae, 12 are in the chest called thoracic vertebrae, 5 are in the low back called lumbar vertebrae, and the sacrum which is a triangular block of bones placed on the lowest vertebra and consists of 5 fused vertebrae. At the tail-end of the column is a bone called coccyx. It also consists of 4 or 5 fused vertebrae and signifies the remains of the tail of the man's ancestors. Thus the whole spinal column can be reduced to a telephone number like 712554 (*see* Fig. 3). Each vertebra possesses a



cylindrical structure in front called the vertebral body, an arch behind that protects various nerves and is connected to the one above and one below by vertebral disc and by joints. The disc is a flat and biscuit-type structure and acts as a cushion, softening the impact of shocks and jerks through the spinal column. These discs also allow the spinal column to bend and rotate. Spinal cord which is like a soft rope leaves the base of the brain and passes through this canal giving out small nerves which pass out through the spaces provided in the vertebrae. These nerves serve different organs of the body.

In case of thoracic vertebrae, a pair of ribs extends from each of the vertebra one on either side of it. A man has 12 pairs of ribs ; the last 2 pairs of ribs are the shortest. The first 7 pairs of the ribs articulate by means of their cartilages with the breastbone called sternum. These ribs are functional and are called true ribs. The remaining 5 pairs of ribs do not articulate with the breast bone and are called false ribs.

The collar bones or the clavicles and the shoulder blades (scapulae) which are flat triangular bones form the shoulder girdle.

All the bones of the skeleton are attached with the muscles which help in different types of voluntary and involuntary movements of the body. There are more than 400 skeletal muscles.

The muscles are of two types, namely, voluntary or those that can be controlled by will ; and involuntary that cannot be controlled by will. The examples of the former type are the muscles of head and neck or the limbs, while those of the latter type are the muscles of eyes, heart, intestines, etc.

The skin covers the whole body to protect the internal organs. The skin is composed of the external layer called the cuticle and the inner layer called dermis which contains the sweat glands and helps in the regulation of the body temperature.

Digestive System

All living creatures need energy for various functions of the body like respiration, muscular work, etc, which is derived through food. The food that we eat is not assimilated or utilised as such in the body but has to be changed into simpler water-soluble substances which are carried by the blood to various tissues and supply nutriment.

The different types of foods that we consume are broadly classified as carbohydrates (sugars), proteins and fats. The carbohydrates are broken down to simpler sugars like glucose ; proteins are broken down to amino acids ; and fats into fatty acids. The glucose directly gives energy, amino acids (nitrogenous substances) are soluble in water and are absorbed directly in the blood and are used for tissue build-up and the fatty acids combine with the alkali in the small intestine and form soaps which are soluble and can be easily absorbed. Besides these, the minerals like calcium, phosphorus, iron and sodium, and vitamins are also directly utilized for various functions of the body. The carbohydrates and the fats are the main energy-giving foods. These burn up and supply what are known as calories or the energy units.

The process of digestion and assimilation is carried out by an 8 to 10 metre long tract known as digestive tract. It comprises oral cavity or the mouth, back of the throat known

as pharynx, gullet, stomach, small intestine, large intestine, liver and pancreas (*see* Fig. 4).

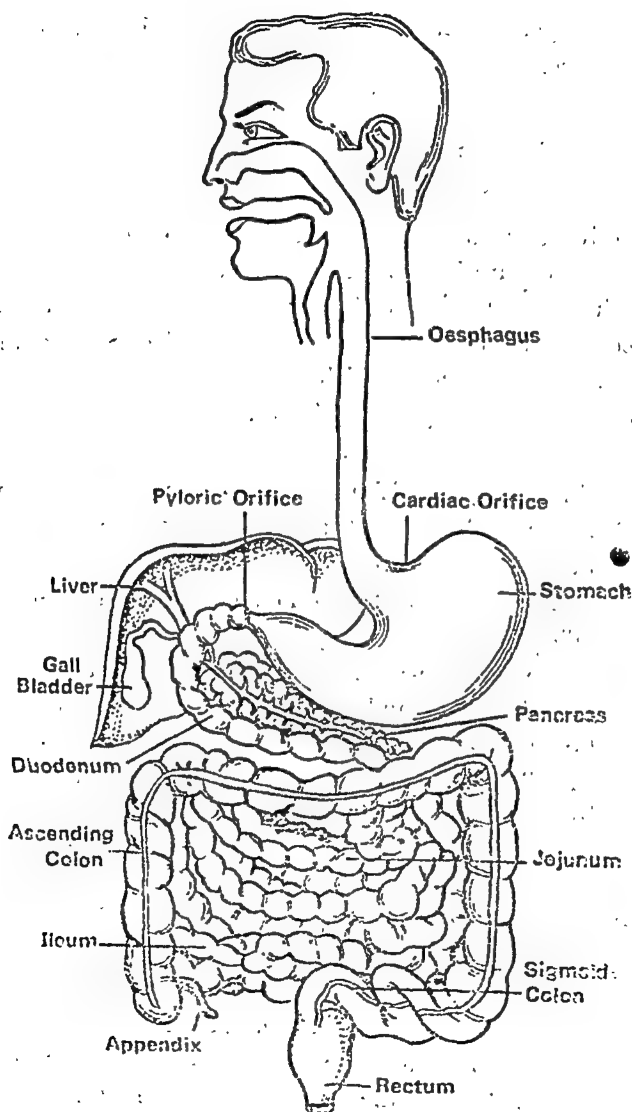


Fig. 4 Digestive Tract

The food is broken and ground up by teeth during chewing and mixed with saliva in the mouth. Saliva helps in partial digestion of the food. A man secretes about 1.5 litres of saliva in a day. The food then enters the gullet through pharynx by the movement of the tongue. A small valve called epiglottis closes the passage in the respiratory canal lest the food should get into it, and lets the food into the gullet, from where it reaches a pouch-like structure, called stomach, which serves as the container of the food. This is an important organ of digestion as it contains numerous gastric (stomach) glands about 5 million in number and secretes about two litres of juice daily. The gastric juice contains organic substances called enzymes and hydrochloric acid which accelerate the splitting of the carbohydrates and proteins. The juice also helps in destroying most of the microbes that find their way into the stomach. The lower part of the stomach produces wave-like contractions and churns the food to reduce its consistency before allowing it into the small intestine.

The small intestine is a narrow tube about 5-7 metres long and comprises three portions namely ; duodenum, jejunum and ileum. The duodenum, which is a U-shaped structure, receives two tubes, namely, bile duct formed by the combined ducts from gall bladder and liver, and pancreatic duct which pour in bile (a bitter yellowish-brown fluid) and the pancreatic juice. The bile helps in the digestion of fats

Liver is a large organ weighing about 1.5 kg and is situated in the upper part of the abdominal cavity mainly in the right and partly in the left hypochondriac region (under the right side rib cage). The liver performs important functions besides secreting the bile. It stores the glucose in the form of animal starch known as glycogen as a reserve nutrient to be released in the form of glucose when blood depletes its glucose require by various organs.

In case of fat deficiency, the liver magically transforms part of carbohydrates into fats. It also turns certain toxic substances into non-toxic substances and, therefore, performs a defensive function. The bile secreted by the liver is stored in a balloon-shaped organ called gall bladder, which releases the bile to the duodenum only when the food enters the latter. Sometimes gall-stones are formed into the gall bladder or the tubes leading to duodenum. One of the constituents of the stone is cholesterol which is present in the bile.

Thus the food is acted upon by various juices in the small intestine leading to splitting up of the complex food nutrients and making them soluble and assimilable by the organism. The nutrients pass through the walls of the small intestine (the process is known as assimilation) and enter blood whence they are carried to all the tissues. Some of the substances like water, alcohol and certain drugs are also assimilated in the stomach. The food thus digested in the small intestine leaves it through the last portion called ileum and enters the large intestine—a broad tube about 1·5 metres long. It is divided into different portions, namely, caecum ; vermiform appendix ; the ascending, transverse and descending colon ; sigmoid colon and the rectum, the latter ending in the anal opening.

In the large intestine, there are different types of intestinal bacteria which ferment the undigested carbohydrates and putrefy the undigested proteins thus resulting in considerable gas formation The break-down of the proteins also results in the formation of the toxic substances like indole and skatol, which are passed on to the liver for detoxification. It is also in the large intestine that large amount of water is reabsorbed and formation of faeces takes place. The usual colour of the stools is mainly due to the bile pigments.

The vermiform (worm-shaped) appendix which is situated below the caecum plays an important role in the reabsorption

of water from the faeces, thus giving the desired moistness and consistency to the stools. Thus those patients whose appendix has been removed, often suffer from chronic constipation. The appendix, *many a time, gets inflamed due to the toxic substances*, worms or decay of the food.

The entire internal surface of the abdominal cavity (parietal peritoneum) and the abdominal organs (visceral peritoneum) is lined with a thin, moist and lustrous membrane called peritoneum. A peritoneal cavity is formed between the two parts of the peritoneum and contains a fluid for moistening the parts and thus reducing the friction during movement of the abdominal organs.

Respiratory System

Every living creature needs oxygen which is necessary for the various tissues or organs of the body and for their functions. Respiration or breathing is a process of inspiring the atmospheric air which contains oxygen and expiring the air which mainly contains carbon dioxide. Truly speaking, there are three actions involved, namely, inspiration, expiration and a little pause between these two actions. Man and all higher animals are equipped with a special apparatus for breathing and supply of oxygen to various tissues. The main organs which help in respiration are nose and mouth, back of the throat (pharynx), larynx (organ of the voice), windpipe (trachea), air tubes (bronchi) and lungs (*see* Fig. 5). There is a small flap at the upper end of the larynx which is called epiglottis which closes over the top of the larynx at the time of swallowing of the food so that the food does not enter the larynx. Many of us have experienced that sometimes due to hasty eating, the food enters the larynx thereby inducing violent coughing to expel the food out.

The nose or the nasal cavity is divided into two nostrils through a common partition called a septum. The nasal cavity

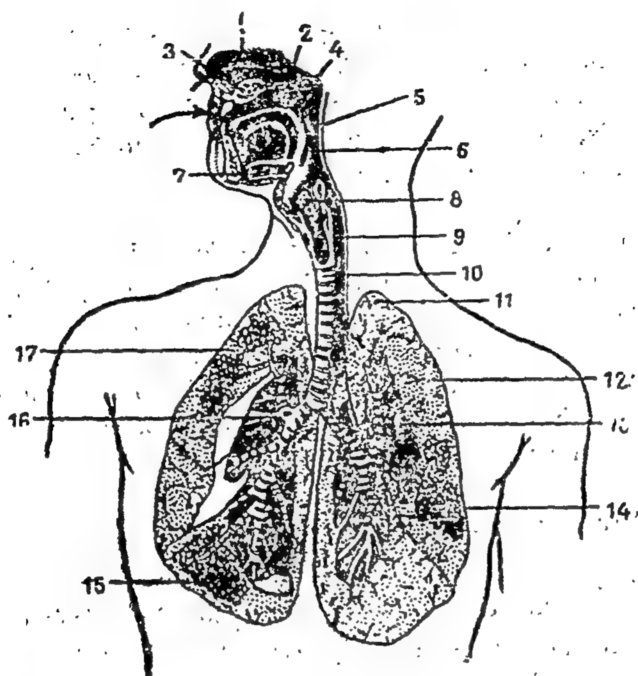


Fig. 5 Respiratory Apparatus

1. nasal cavity; 2. oral cavity; 3. hard palate; 4. nasopharynx; 5. oral part of pharynx; 6. epiglottis; 7. hyoid bone; 8. larynx; 9. oesophagus; 10. trachea; 11. apex of left lun-; 12. left lung; 13. bronchus; 14 and 15. pulmonary alveoli, enlarged; 16. bronchus; 17. right lung. Arborization of bronchi in lungs (bronchial tree) are shown.

is lined with a soft and moist membrane called mucous membrane which is covered with fine hair for catching any dust, etc, entering the nose and for warming up inhaled air by friction. The mucous membrane has got a property of easily swelling up due to any infection or certain chemical substances. The air after entering the nose passes down to the larynx from where it is diverted to the windpipe, which is about 12 cm. long and is kept in a stretched condition by half-rings of the white elastic substance—cartilage. But for these rings, the windpipe would collapse. The windpipe is also lined with

mucous membrane and is provided with glands which secrete slimy substance called mucus to keep it moist. The windpipe divides into right and left air-tubes known as bronchi, just about 5 cm above the top of the breastbone. Thus, bronchi pass into the right and left lung and further divide into finer bronchioles and finally enter the air sacs of the lungs medically known as *alveoli of the lungs. It is in the air sacs that the* oxygen inhaled gets into the blood and carbon dioxide is returned from the blood to the air sacs. Amazingly, there are about 300 to 400 million air sacs in the lungs of an adult amounting to a total surface area of 100 sq metres. These air sacs inflate and collapse like small balloons. The lungs are shaped like a cone—with upper part narrower than the lower part. The right lung consists of 3 lobes while the left has only 2 lobes. The lungs are situated in the chest and lie immediately above a dome shaped sheet of muscle called diaphragm which separates the chest and the abdominal cavities of the body. The lungs are completely covered by a thin membrane called pleura, which, at the root of the lung is folded back on itself and also lines inside the chest wall.

Mechanism of Respiration. On inspiration the diaphragm contracts and its dome-shaped centre becomes flat which helps in increasing the capacity of the chest from above downwards. At the same time, the ribs which generally point downward and forward rise up affording more space from side to side. The lungs being elastic thus get an opportunity to expand and fill the air in the air sacs. This action of inspiration is followed by a small pause. After the pause, the diaphragm expands and regains its original shape of a dome as well as the ribs come back to their original position leading to the contraction of the lungs and exhalation of inspired air. An adult respires about 15 to 18 times a minute. However, the rate varies with different conditions like, exercise, temperature, etc. It is interesting to know that all air inhaled is not exaled. There is a certain amount of air remaining in the

lungs even after the strongest expiration and is called residual air.

Hence, the main function of the respiratory system is to supply oxygen through blood to all the cells in the body, the main exchange of gases taking place in the air sacs To get some idea about the exchange of gases, it will be interesting to know the composition of the inhaled and exhaled air. The inhaled air contains about 21 per cent oxygen, 0·03 per cent carbon dioxide and 79 per cent nitrogen and other gases, while the exhaled air contains only 16 per cent oxygen, 4 per cent carbon dioxide and about 80 per cent nitrogen and other gases.

The entire activity of respiration is controlled and regulated by the so-called respiration centre in the brain through nervous fibres, the spinal cord and the respiratory muscles.

The pattern and nature of breathing changes in different diseases which provides a clue to a doctor about the nature of the disease. For instance, in case of tuberculosis, loud and rough inspiration followed by prolonged expiration is found which is termed as harsh vesicular breathing. Similarly, if the inspiratory sound is high-pitched and blowing with a distinct pause between the inspiration and expiration resembling the sound of 'OOH', 'HO' or 'HOW' it is called bronchial breathing and is found in certain diseases of lungs.

Coughing and sneezing are some of the common phenomena associated with the respiratory system. These are only a type of response to the irritation of the mucous membrane of the larynx or bronchi by particles of dust, food, etc. These are aimed at throwing out the irritating substance. Thus, the coughing and sneezing are protective respiratory processes.

Circulatory System

As we partly discussed earlier, blood is the most important fluid in our body—a man has quite a bit of it, that is, 5 litres—

weighing about 1/13 of the total body weight—which carries nutrition and oxygen to all the cells and tissues of the body. But for this vital fluid, it will be impossible to feed all the organs of the body. The blood is a red fluid and tastes saltish. Though it appears to be a red fluid, but when viewed in a microscope, it is seen to contain different types of cells floating in a liquid called plasma. The cells are known as red blood cells, and white blood cells which are further divided into different type of cells. The blood of a healthy person contains about 4 to 5 million red blood cells (also known as erythrocytes) per cubic millimetre of blood. The red colour of the blood is due to a pigment called haemoglobin which contains iron. But for these red blood cells it will be impossible for the blood to carry oxygen which is mainly due to the haemoglobin that has a property to absorb oxygen in the lungs.

The white blood cells or medically known as leucocytes number from 5000 to 9000 per cubic millimetre. The lymphocytes perform a protective function, that is, they destroy bacteria and other harmful particles which may otherwise damage the body.

The blood also contains varying amounts of mineral salts like sodium chloride (common salt) and potassium, carbohydrates and proteins, etc.

The blood found in the arteries (those blood vessels which carry pure blood to different organs) is bright red while the blood in the veins (those blood vessels which bring impure blood from different organs) is generally dark in colour except the vein carrying blood from lungs to the heart (known as pulmonary vein) which carries bright red blood. One of the important phenomena associated with this important fluid is that of clotting of blood. But for the substance called fibrinogen in the blood plasma, an injury or cut would lead to continuous oozing of blood from the blood vessels leading

ultimately to death. This substance which is a marvel of the nature changes into fibrin after coming into contact with the air and entangles the blood cells into a clot. However, the blood should not clot in healthy blood vessels which would otherwise result in the stoppage of flow. A clot formed inside the injured diseased blood vessels is called a thrombus and the condition is called thrombosis. The commonly known term like coronary thrombosis is used when the blood vessels of the heart are involved and the cerebral thrombosis when the blood vessels of the brain are involved.

Heart and the Blood Vessels

The circulation of blood in the body is carried out by an elastic muscular pump called heart which is about 15 cm long and 10 cm wide. It is situated between the lungs and behind the breastbone. It is divided into two compartments right and left which are further divided into two chambers each—the upper one known as auricle and the lower one as ventricle. Between each auricle and ventricle there is a non-return valve. The contraction and expansion of the heart give out two rhythmic sounds known as systole and diastole respectively. When the heart contracts the pure blood is pushed from the left ventricle into the body through various blood vessels known as arteries which have thick elastic walls. These arteries get further divided into smaller vessels—arterioles—and further into minute blood capillaries. It is in the capillaries that interchange of substances between the blood and the tissues takes place. Various nutrients and the oxygen carried by the blood pass from the blood into the tissues, while carbon dioxide and other waste products pass from the tissues into the blood. Thus the impure blood carrying carbon dioxide and waste products returns to the heart into the right ventricle through blood vessels known as veins The impure blood is then pushed out to the lungs through a pulmonary artery (pulmo meaning lung) where the blood through its

haemoglobin exchanges its carbon dioxide for oxygen and gets purified and returns to the heart through the pulmonary vein. Thus the simultaneous actions of supply of pure blood to different organs, receiving back the impure blood from the organs into the heart, sending out the blood to the lungs for purification and return of the purified blood back to the heart are carried out in a fraction of a second.

There are two types of valves in the heart ; folding valves and the valves shaped like little pockets—semi-lunar valves. The folding valves of the heart are like plates and are so adjusted that they open only in one direction—that of ventricle. When the ventricles relax the valves open and the blood enters freely from the auricle into the ventricle. When the ventricles contract the blood cannot flow back into auricle because the valves close under the pressure of the blood and the blood flows into the arteries.

The movement of the blood in the opposite direction in the ventricles is prevented by semi-lunar valves so that the blood can only flow into the pulmonary arteries and the aorta (*see* Fig 6).

Pulse and Blood Pressure The pulse-beat is taken at the front of the wrist where the artery called radial artery passes into the palm of the hand. It is towards the side of the thumb and is felt by pressing the fingers over the artery. The average rate of pulse in a healthy adult is 72 beats per minute. However, the rate varies with temperature and in certain diseases. In infants and children the normal rate is about 100 beats per minute.

The circulation of blood through blood vessels exerts certain pressure on their walls which is normally constant. The pressure is mainly due to two basic factors, namely, (a) the

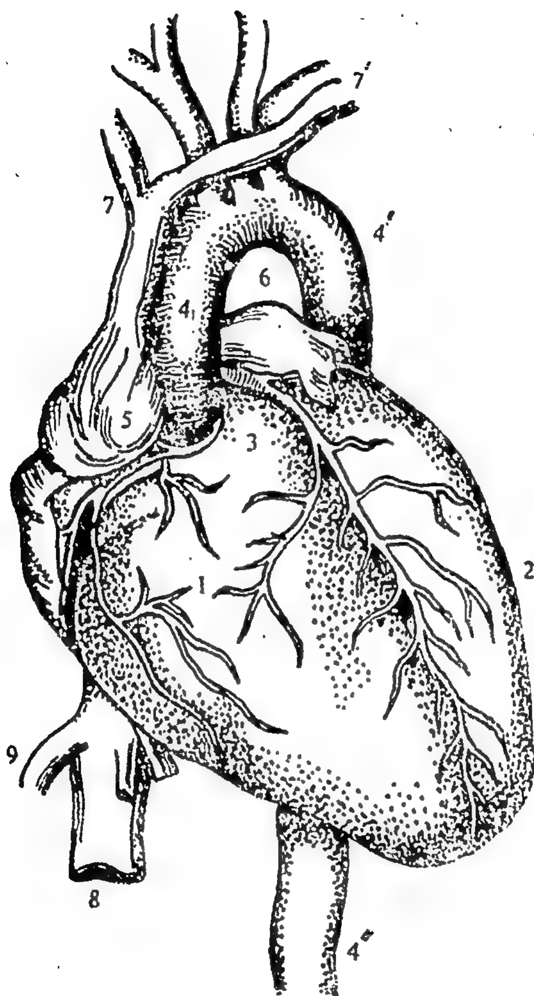


Fig. 6 Blood Circulation

1. right ventricle ; 2. left ventricle ; 3. root of the pulmonary artery cut short ; 4. 4', and 4" the aorta ; 5. right auricle ; 6. left auricle ; 7. veins which unite to form the vena cava superior ; 8. inferior vena cava ; 9. hepatic vein ; +, coronary arteries

force due to which the blood is pushed from the heart by the contraction of its muscles, and (*b*) the resistance of the blood vessels which the blood has to overcome as it circulates.

As the blood travels towards different organs the pressure keeps on reducing. Thus the pressure is higher in the large arteries near the heart while it is the lowest in the large veins that carry the blood to the heart. The blood pressure is usually measured in an artery called brachial artery (above the elbow joint). In an adult the maximal pressure in this artery is about 120 mm of mercury and the minimal is about 80 mm. The pressure rises during physical work and drops during sleep.

The heart also produces electrical impulses which are utilized in the electro-cardiography (ECG) for assessing the proper functioning of the heart and the blood vessels. Similarly the heart has also been found to produce fluctuating magnetic fields which are measured through an instrument called magneto-cardiograph (MCG). The centres regulating the activity of the heart, arteries, veins, etc, are located in a portion of the brain called medulla oblongata and the spinal cord. Whenever certain external factors like heat, cold and pain occur there is a reflex action produced through the nervous system which results in the changes in the activity of the heart and blood vessels The impulses arising from the stimulation of the receptors are transmitted along what are known as sensory nerves to the spinal cord and brain where they cause excitation of the centres of the activity of the heart and the blood vessels.

Urinary System

As we discussed earlier, various nutrients like carbohydrates, proteins, fats and oxygen are used by an organism and are ultimately utilized by each cell. The nutrients are broken down in simpler substances to make them water-soluble and in a form suitable for assimilation. However, during their breakdown, certain injurious products known as end-products of metabolism accumulate in the cells. For instance,

the protein breakdown results in the end-products like urea, uric acid and salts of sulphuric acid. Besides, the exchange of gases in cells results in the accumulation of carbon dioxide. All these products finally accumulate in the blood and should be discharged outside the body. It is like using food and other products in the home which ultimately results in the accumulation of various waste-products that are eliminated through drains outside the home.

The main function of the elimination of these end-products is carried out by special filters called kidneys and its drain tubes called ureters and urethra. Some of the end-products like carbon dioxide are eliminated through the lungs, while some of the salts like sodium chloride and organic substances (organic substances are chiefly made of hydrogen, oxygen and carbon) are eliminated through the skin. These harmful substances if allowed to accumulate in the body may produce many effects like toxaemia, and cause serious illnesses.

The urinary system comprises two kidneys, two ureters, urinary bladder and urethra (*see* Fig. 7).

The kidneys are bean-shaped structures, weighing about 150 grams each. These are located on the backside in the loins, each below the last floating rib or at the level of the twelfth thoracic and first-second lumbar vertebrae. A kidney when vertically cut shows innumerable fine tubules (called uriniferous tubules) and minute blood vessels ; both being intimately connected and are called nephrons. The two kidneys contain more than two million nephrons. The seat of the kidney from which the ureters arise is known as pelvis of the kidney or renal pelvis (renal pertaining to kidney).

The blood containing various impurities is filtered in these nephrons and leaves behind part of water and other substances which forms into the urine and is passed out. Unlike the

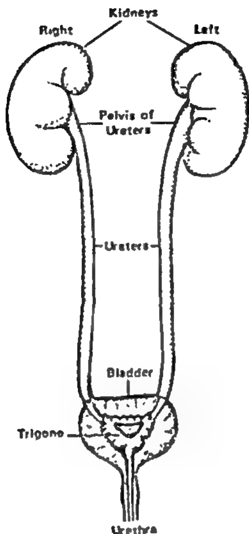


Fig. 7 Urinary System

blood, the urine is devoid of protein and sugar, while the sodium content of the blood and the urine is nearly the same. The urine also contains about 7 times more potassium, 12 times more uric acid, 65 times more urea and 90 times more sul-phates. The urine passes from the nephrons to the [illegible] of the kidney and thence through the ureters to [illegible]

bladder which lies to the front of the pelvic girdle. The ureter is a 30-cm long tube. The urine accumulates in the urinary bladder which has a capacity of about 300-500 ml and has a thick muscular wall. Attached to the bladder is a tube called urethra which leads the urine out. The act of urination comprises the contraction of the muscles of urinary bladder due to the intensity of pressure exerted by the urine and pushing the urine out through urethra.

The urination or micturition centres in the medulla oblongata of the brain control the micturition reflex.

Reproductive Systems

All living creatures reproduce as a result of a natural instinct. The man and the higher animals reproduce through special reproduction system comprising different internal and external organs.

The male reproductive organs comprise two testes, seminal vesicle, tubes carrying semen, prostate gland, and external genitals, namely, scrotum or the outer sac for testes, and the penis.

The female reproductive organs comprise two ovaries, two tubes carrying the ovum (egg), uterus, vagina, vulva and clitoris.

Male Reproductive System

The testes in the male are the main reproductive organs as these produce the spermatozoa—the cells which fertilize the ovum of the female and produce what is known as a zygote which ultimately develops into a foetus. The testes are oval shaped and lie in a sac called scrotum. The sperms, thus produced by the testes are carried by two tubes known as spermatic cords and are stored in two elongated shaped structures called seminal vesicles till the time of ejaculation. The latter part of the spermatic cord is known as deferent duct which receives

the connecting tube from the seminal vesicle and goes further to meet the urethra (the tube that also carries urine from the urinary bladder), passing through a gland called prostate gland. The gland secretes a watery fluid that forms a part of the seminal fluid. The urethra continues through the length of the penis. The seminal fluid is thus composed of spermatozoa from the seminal vesicle and the fluid from the prostate gland. Each ejaculation of the seminal fluid contains about 200 million spermatozoas though, interestingly, only one spermatozoa is sufficient to fertilize the female ovum. A spermatozoa has a head, neck and a tail. The head contains the heriditary material while the tail helps it in motion.

The penis consists of the tip known as glans where the urethra opens, the neck (between the glans and the body) and the root of penis. The penis is covered by a skin which forms a fold or foreskin commonly called prepuce on the glans.

Thus during coition, the copulatory act results in the discharge of the seminal fluid and the spermatozoa are deposited in the female genitalia.

Female Reproductive System

A pair of ovaries weighing about 5 grams is located in the pelvis. This is the most important reproductive organ as it produces and matures the female germ cell called ovum. An ovary contains what are known as follicles which start maturing at the age of puberty in a girl, and it takes about 28 days to mature. An ovum is present in the follicle which developes inside it and is thrown away after rupturing the wall of the mature follicle. The ovum is then carried to the tubes known as fallopian tubes where it is fertilized. The process of maturation of the ovum and its release from the follicle is called ovulation. After the rupture of the follicle, a yello
... corpus luteum forms at the site of the ruptur

which persists if fertilization of the ovum takes place, or else it shrinks and dies leaving a scar. Thus, lack of fertilization results in the outflow of the menstrual blood in women. The menstruation and ovulation continue in a woman till the age of 45, after which the change of life or menopause leads to the ceasation of the function of the ovaries.

After fertilisation, the ovum begins to develop into an embryo and travels downwards from the fallopian tubes to a wide muscular organ called uterus which is situated in the pelvis.

Vagina is a narrow tube about 8 to 10 cm long, where the seminal fluid of the male is deposited during coitus whence the sperms swim in and enter the uterus.

Nervous System

The human body has the most versatile communication system which connects all cells, tissues and organs with each other and the brain. The messages from the remotest organs can reach brain and order taken back to the affected organs at the astounding speeds of a fraction of a second. The system is called the nervous system as it includes the nerves or the fine transmission lines.

The system comprises central and peripheral nervous systems. In the former are included brain and the spinal cord—a soft white cord running through the canal formed by the vertebrae of the backbone. The peripheral nervous system includes the nerves which go and attach themselves to the different organs and those that return to the spinal cord and the brain carrying different messages.

Besides the job of communication, the nervous system regulates the activities of different organs and also coordinates their actions. For instance, it is because of the proper

regulation by the nervous system that we are able to walk properly and there is a systematic and efficient coordination between different systems functioning in our body—the respiration, digestion and heart beat in perfect harmony and the integrity of the whole organism is ensured. If certain portions of the brain are damaged or removed, we would stagger in walking as in case of alcoholism or serious accidents. In other cases, the respiratory muscles may fail and result in death.

It is also through the nervous system that we are able to perceive the external world and its varied impressions. Our understanding, thought, memory, will, etc, are but the few subtler functions of the nervous system. We also perceive the pain and pleasure through this system.

Nerves

Nerves consist of the nerve cells, nerve fibres and an outer covering. Numerous such nerves extend from the brain and the spinal cord. Mainly there are two types of nerves, those *that terminate in organs like muscles,* and *others that terminate* in the organs like skin. The former are known as motor nerves because they can move the organs on the orders of the brain and the latter are known as sensory nerves and their endings serve as receptors of impressions. They also carry the message from the skin to the spinal cord or brain. Both these nerves are connected to each other either in the brain or the spinal cord and finally to the receptors and the working organs and form an arc known as reflex arc (see Fig. 8). For instance, in case some one thrusts a pin in the arm, the sensory nerves carry the impression through their fibres to the spinal cord from where the motor nerves bring the instant message to the muscles of the arm to withdraw with a spontaneous reflex action and the arm is withdrawn with a sudden jerk. The nerves can carry the impulse at the speed of about 100 metres per second. The nerve impulses transmitted to the spinal

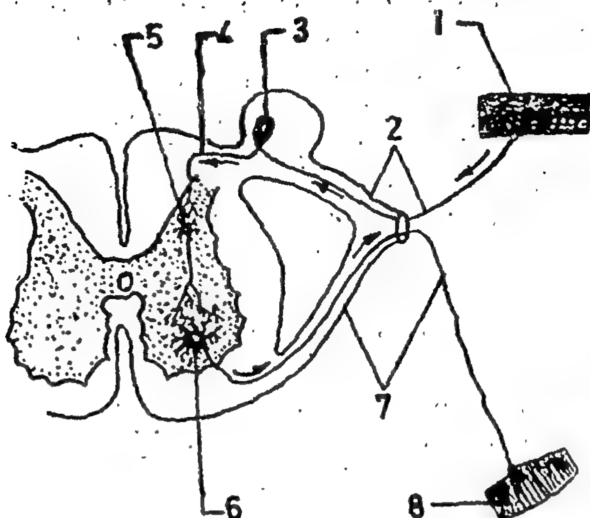


Fig. 8 Reflex arc

1 receptor (ending of sensory nerve fibre) in skin ; 2. sensory fibre—peripheral process of sensory nerve cell ; 3. sensory cell (in nerve ganglion) ; 4. central process of sensory cell ; 5. internuncial nerve cell (in spinal cord) ; 6. motor nerve cell (in spinal cord) 7. motor nerve fibre ; 8. nerve ending in muscle.

cord from the periphery (skin, etc) by the sensory nerves are conducted finally to the brain where various sensations like pain, heat and cold are perceived.

Spinal cord

Spinal cord starts from the base of the brain and passes through the spinal canal formed by the vertebrae. Each vertebra has lateral or side openings from where the pairs of spinal nerve issue. In all there are 31 pairs of such nerves. The portion of the spinal cord corresponding to each pair of spinal nerves is called a segment.

These nerves not only connect the various segments of the spinal cord with each other but also connect the spinal cord with the brain.

The reflex activity of the spinal cord can be shown by a quick tapping with a hammer of the portion of the knee below the knee cap. The impulse is carried to the spinal cord from where the message is transmitted to the knee muscles to contract as a result the leg is extended at the knee joint.

The Brain

The human brain weighs about 1300 g and consists of three zones called forebrain, mid-brain and the hind brain, each one controlling different organs and having different functions. The brain and the spinal cord have three membranes which are called meninges (the inflammation of menings is called meningitis).

The fore brain also called cerebrum is the seat of intellect, thought, memory, emotion and will. It consists of two cerebral hemispheres which have numerous folds with a central length-wise cut. The outer layer is called the cerebral cortex which is the seat of higher nervous activity. The right hemisphere controls the impulses from the left side of the body and the vice versa. The mid-brain consists of thick bundles of fibres which penetrate deep into the right and left hemispheres of the brain, as well as four eminences. These nerve bundles are also called as cerebral peduncles. The mid-brain controls the muscle tone. Its removal can lead to distubred muscular activity like muscle rigidity.

The hind brain consists of the upward continuation of the spinal cord known as medulla oblongata ; a large cylinder-like elevation called pons, and two hemispheres one on each side collectively known as cerebellum (*see* Fig. 9). The hind brain is a very important portion of the brain as it is here that the control centres of respiratory, circulatory, the centres of muscles that produce facial expressions, centres of swallowing, vomitting and mastication are located. If the hind brain is injured or removed, all the above activities will be severely affected. If cerebellum is removed, the gait becomes staggering

and the faculty of coordination is lost. Another portion of the brain called the between-brain or diencephalon (encephalon means brain) comprises structures like hypothalamus and is located in front of the brain. These serve as intermediate communication centres.

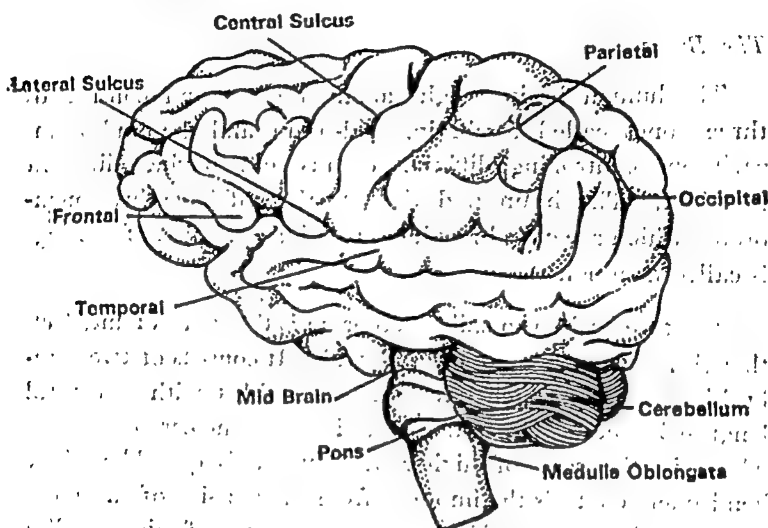


Fig. 9 Structure of the Brain

The Nerves of the Brain

Twelve pairs of nerves known as cranial nerves (cranium means the skeleton accomodating the brain) originate in the brain. Some of these connect the brain with several organs like eyes (optic), hearing (auditory) and nose (olfactory), while other nerves go to the muscles of scalp, mouth and salivary glands. A wandering nerve—vagus nerve—wanders about in the body and branches into finer nerves which lead to the muscles of chest and abdomen.

If the brain and the spinal cord are cut across, we find certain dark areas called grey matter and the white areas surrounding the grey matter called the white matter. The grey matter consists of the nerve cells while the white matter contains the

nerve fibres which are the extensions of the nerve cells. These nerve fibres connect the various segments of the spinal cord with each other as well as with the brain. The continuous layer of grey matter on the surface of the cerebral hemispheres is called the cerebral cortex. Various parts of the brain have accumulations of nerve cells (grey matter) located inside the white matter and are called nuclei, while the accumulations of the nerve cells outside the brain and the spinal cord are known as ganglia.

The Electric Activity of the Brain

The brain possesses electrical activity which can be recorded by means of a special instrument called electro-encephalograph which records the rhythm-curves of the brain. The curve is known as electro-encephalogram (EEG).

Different rhythms are recorded during sleep, work, excitement, etc. For instance, alpha rhythm (smooth, regular oscillations) is found during rest; beta rhythm (low potential fast waves) is found during mental work while delta rhythm is found in certain tumours.

Presently, it has also been found that the brain possesses fluctuating magnetic activity as well, which can be recorded through a special instrument called Magneto-encephalograph and the rhythm-curve is known as magneto-encephalogram (MEG).

Ductless Glands

It is wonderful to think for a while as to how is the human growth pattern so regulated and how do different sex characteristics like moustache in a man and mammary glands in a female develop—how do many such changes occur in the human organism. But for certain chemical substances called harmones in infinitesimal quantities these regulatory and distinctive changes will not be possible. These harmones are secreted by special organs called glands which pour their secretions directly into the blood and hence are called ductless or endocrine

glands. The dilution of a harmone may be as low as one part in one million parts, yet it is dynamic enough to superbly regulate or disturb the activity of different organs of the body. These changes may be due to over-secretion (hyperfunction) or undersecretion (hypofunction) by the glands. The nervous system exercises direct control over these glands.

These glands are : pineal, pituitary, thyroid, thymus, supra-adrenal, pancreas and the sex glands (*see* Fig. 10).

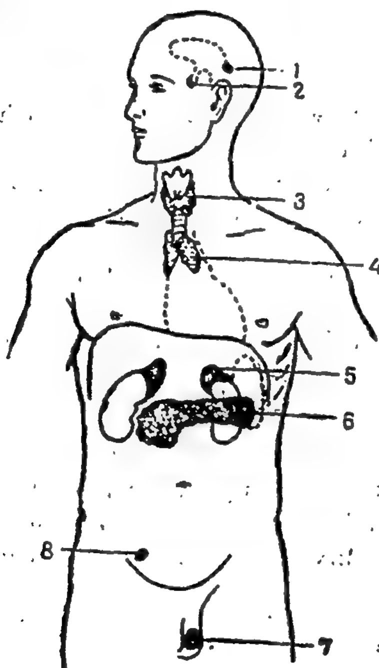


Fig. 10 Endocrine Glands

1. pineal gland ; 2. hypophysis ; 3. thyroid and parathyroid glands ; 4. thymus ; 5. adrenal ; 6. islet part of pancreas ; 7. incretory part of test es ; 8. incretory part of ovaries

Pineal Gland. This gland is situated in between-brain in the skull and is so called because its shape resembles a pine cone. Its precise function is not known but it seems to play an important role in the inhibition of the premature development of sex glands.

Pituitary Gland. This is one of the most important glands in the body as it controls a number of activities including proper growth of the young organism. It is an oval body and is situated in the temple region of the head. Deficient secretion of the harmones by this gland results in the retarded growth called dwarfism and the over-secretion leads to enormous growth called gigantism or even to a disease called acromegaly in which there is an excessive growth of the bones of face, nose, fingers, toes, etc.

Thyroid Glands. This gland is located in the front portion of the neck and consists of two lobes—right and left. The harmones secreted by this gland are called thyroxine and triodothyronine which contain iodine. These harmones affect the growth and development of an organism. The over-function of this gland results in its enlargement called goitre, faster metabolism, faster heart rate and sometimes bulging of eyes called exophthalmic goitre. Due to the faster metabolism, a person loses considerable weight and also develops involuntary tremor of hands and profuse sweating. The underactivity of the gland which is due to deficient intake of iodine results in retarded metabolism and slowing of all functions in the body including the impaired activity. The deficient activity also leads to diseases like feeble mindedness termed as cretinism.

Parathyroid Glands. Situated on the back side of the thyroid gland are four tiny glands called parathyroid. The harmone secreted by these glands has an influence over the calcium and phosphorus utilization in the body. In case of deficient action of the glands, lowering of the calcium level in the blood and spasm of many muscles including the respiratory muscles occurs.

Thymus Gland. Situated behind the breastbone, this gland seems to have maximum function during childhood. Its harmone inhibits the maturation of the sex glands before onset of sexual maturity in children.

Pancreas. Pancreas is a very large gland located behind the stomach. Besides producing the pancreatic juice for digestion of food, it produces an important harmone commonly known as insulin. The deficient secretion of this harmone results in increased sugar content in the blood leading to a disease popularly known as diabetes mellitus.

Adrenals. These paired glands are crescent shaped and are located in the lumbar region near the upper poles of the kidneys. These glands secrete important harmones like aldosterone which regulates the retention of sodium in the body and epinephrine harmone which exerts its influence on the heart. The deficient activity of the glands results in disturbed metabolism, loss of appetite, drop in blood pressure, etc, collectively known as Addison's disease. The increased activity of these glands leads to develoment of facial hair and moustaches in females and premature maturation of the sex glands in children.

Sex glands. The sex glands namely testes in males and ovaries in females also secrete sex harmones like testosterone and progesterone, respectively. These harmones are directly released in the blood and are responsible for sexual maturity, puberty and developing the peculiar masculine and feminine characteristics. These also affect the mentality and peculiar emotional aspects of the male and female personalities.

3

About Magnet and Magnetism

Knowledge is two-fold and consists not only in affirmation of what is true, but in the negation of that which is false.

Charles Caleb Colton

Many of us have come across a piece of hard metal known as magnet which can attract small pieces of iron, nails, pins and any substance made of iron. This piece of metal is surrounded by an effect like halo around a sage, called magnetic field. Iron pieces and things made of iron are attracted by magnet when they come close into this region of attractive influence. This fascinating piece of metal is found in many shapes in many of the appliances we use in our daily life. We can find it in toys where one piece of toy is attracted or repelled by the other. It acts as heart of the electric motors where it experiences rotating force under the influence of electric current. A magnet forms the basic skeleton of radio or T.V. speakers and telephone receivers where it helps conversion of electric current energy into sound. Still another place of finding this multipurpose metal is on the periphery of refrigerator door where it is used as a magnetic strip and keeps the door shut properly.

The nature also embraces magnet and magnetism in various ways. Our earth acts as a huge but weak magnet and this magnetism of earth puts life into the mariner's magnetic compass which gives direction to the sailor and acts as his

eyes when he is surrounded by water only till the horizons. Why the earth alone, our sun, stars we see at night and the planets also act as big magnets disseminating their magnetic fields to far off areas in the universe. It is surprising to note that we are always under the influence of these magnetic fields acting collectively without allowing us to know of it. These fields affect the movement of not only a score of worms and other creatures but the man as well. These creatures and the man have their own magnetic fields of varying intensities - human brain produces a very strong magnetic field at times—and the two magnetic fields influence each other. In this way, the earth, the sun, the stars and the planets do tell upon all of us influencing our brain which in turn controls the body accordingly. But before unravelling the effects on the man, we shall first know and understand what a magnet is, how it behaves and what are its important properties.

Natural Magnets. Long ago, dark-coloured stones were discovered in Magnesia in Asia Minor. These stones derived the name of magnets from Magnesia and were able to attract objects made of iron and some other materials. These stones were also known as loadstones or natural magnets. The name loadstone was given because these stones when hung free in air used to stay in a particular orientation leading to a particular direction and hence the name *leading stone* or loadstone. This stone is found to compose of chiefly iron and oxygen in the form of oxide having molecular formula Fe_3O_4 (ferrosoferric oxide). The directional property of loadstone was used to make mariner's compass in old times.

Man-Made Magnets: Artificial magnets made by man have replaced the natural loadstone because such magnets could be given shapes of desired nature and made much stronger depending upon the use. Some magnets are of bar shape, horse-shoe shape, needle shape and some of disc-shape giving strong magnetic field only in one direction.

Permanent and Temporary Magnets

The man-made magnets can be further divided into two categories, namely, permanent magnets and temporary magnets. Permanent magnets are those which retain their magnetism for a very long time, usually a few decades, whereas magnetism of temporary magnets can be 'switched on' and 'switched off' at will. Both these types of magnets find their respective uses in innumerable appliances. The permanent magnet finds its use in galvanometers, radio speaker, telephone ear piece, a lining on the door of a refrigerator, d-c electric motors, magnetotherapy, etc. However, temporary magnets in the form of electromagnets find use in many more appliances like electric door bell, telegraphic machines and electric cranes. *Use of these magnets in various appliances is* based upon the properties of magnets which are given in the following paragraphs.

Properties of Magnets

Magnetic poles. If we take a magnet, say a bar magnet, and allow it to attract the iron filings or other bits of iron by placing it in a heap of filings, we shall find that the amount of iron bits attracted by the magnet varies from its one end to the other. There will be two positions, where the amount of iron attraction is maximum. In other words, these two places on the magnet act as centres of magnetic attraction. These centres are called magnetic poles.

Further, if such a bar magnet is suspended freely in air by means of a thread tied to its centre, it invariably points to north-south direction of the earth. The pole pointing towards north direction is termed by convention as 'north pole' of the magnet and the other pole pointing in the *south direction is* termed by convention as 'south pole' of the magnet. It is a surprising fact about nature that each magnet in the universe

has a south as well as a north pole. We have been emphasizing the attractive property of magnets but if we consider the influence of one magnet on the other, there is another influence of repulsion between the magnets which becomes known. It is found that like poles of the two magnets always repel each other, that is, north pole of one magnet will repel north pole of the other magnet and like wise, south pole of the one will repel south pole of the other magnet. However, if south pole of a magnet is brought near the north pole of the other magnet, there is attraction between them.

Method of Forming Magnets. Broadly there are two methods of making artificial magnets :

(*i*) By rubbing a magnet on magnetic material piece, and

(*ii*) By electric current surrounding magnetic material piece.

In the mechanical method, a magnet is used to magnetise the bar of magnetic material by rubbing in a particular direction repeatedly, that is by rubbing the bar with an inclined magnet. Starting on one end, going over the whole length till the other end is reached the magnet is raised and the process repeated. This unidirectional rubbing of magnet makes the bar a new magnet with north and south poles near two ends of the bar. This method of magnetization gives a magnet of weak power. For stronger attractive or repulsive power magnets, electrical methods are used.

Magnetization by electric current is achieved by winding an insulated coil around a bar of magnetic material and passing direct current through the coil by the help of electric cells. Electric current through the coil around the bar renders it a magnet with north and south poles at respective ends. If the material of the bar used is of hard magnetic material, the magnet formed is of permanent nature, otherwise the use of soft iron will make the bar a temporary magnet which retains magnetism only as long as the electric current passes through

the coil. An electric magnet with soft iron U-shaped rod carrying current around it is usually used as magnetic crane.

The passage of stronger current endows the magnet with more attractive power.

Breaking of magnets. A curious fact about already surprising magnet is that a big magnet breaks into two smaller magnets of same power. Both these daughter-magnets will have a south pole and a north pole each. If we go on breaking a magnet into smaller pieces, the resultant fractions will retain fulfledged magnets with a north pole and a south pole each. It is a natural fact that north and south poles always co-exist—in other words we can never have north pole of a magnet without having a south pole of equal strength with it. Thus monopoles can never exist. We can draw inference from these facts that each atom of magnetized magnetic material acts as a tiny magnet having a north and a south pole each.

Molecular Theory of Magnetism. The fact accompanying breaking of magnets renders ground to a convincing theory of magnetism. A physicist Weber suggested that each molecule of magnetic material is a tiny magnet having opposite polarity at its two ends. When these tiny magnets are misaligned in the material, they cancel the effect of one another and each north pole available is neutralized by the effect of neighbouring south pole and vice-versa. Because no free poles are available in such misaligned distribution, the bar of magnetic material acts as a non-magnetized bar.

obtained when all the molecular tiny magnets are aligned in a particular direction. Further, the strength of a magnet should depend according to this theory, on the number of free poles of tiny magnets in a particular region of the magnet.

Many experiments have been conducted by scientists who approve of this formulation of the theory of magnetization.

Magnetic Induction. Attraction of magnetic material by magnet can be explained on the basis of molecular theory stated above. When a magnet is brought near a magnetic material, the tiny magnets of the material get affected and reorient according to the magnet's position. Region near the north pole of magnet becomes of south polarity and is called induced south pole. There is then attraction between north pole of the magnet and the induced south pole. This phenomenon of production of polarity on the magnetic material in the vicinity of a magnet is known as magnetic induction.

An example of multiple induction effect can be seen by bringing a strong magnet near a heap of iron nails. A chain of nails will stick to the magnet.

An important effect of this induction takes place in the blood stream of a man when a strong magnet is brought near to the skin. Blood contains haemoglobin which in turn is affected by magnet due to the presence of iron in haemoglobin. An effect like multiple induction, as stated above, takes place and thereby favourably affects the blood circulation. The nature of effect on the body due to magnet is more complex owing to the presence of electric charges and current present in various tissues of the human body. The likely nature of effects of magnets on human body will be discussed later.

Magnetic Lines of Force. A useful way of understanding the phenomena of magnetism besides molecular theory is the concept of magnetic lines of force.

A magnetic line of force is a path along which a free north pole will move in the neighbourhood of a magnet. To draw and to know these lines of force, iron filings are spread on a paper over which is placed a magnet. The filings rearrange themselves on the paper clearly indicating various paths around the magnet depicting the lines of force. Where the concentration of filings is more, the strength of magnetic field is said to be more (*see* Fig. 11). Hence, we can define magnetic field strength as a number of lines of forces per unit

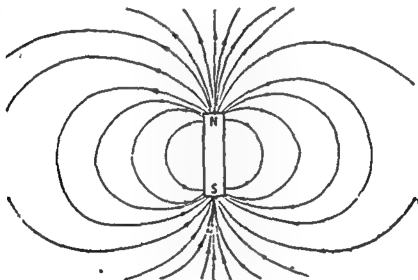


Fig. 11 Magnetic Lines of Force

area. Certain interesting properties attributed to the magnetic lines of force are that two lines of force never intersect or cross at a point and they contract along their length. Also these are not closed curves ; externally they join north pole to south pole and internally they pass from north pole to the south pole. Due to the effect of the earth's magnetism, different patterns of magnetic lines of force in a bar magnet are formed when say, the north pole of the bar magnet faces north direction or when it faces the other directions.

The Earth as a Magnet. We know that a freely-suspended magnet points towards north-south direction. But why? To answer this question, the earth can be likened to a big magnet having two magnetic poles—*North pole* of the earth's magnet is located near the *geographical south pole* of the earth and *south pole* of the earth's magnet is located near the *geographical north pole* of the earth. As opposite poles of the earth and those of freely-suspended magnet will attract each other, the magnet will always point towards north-south direction.

One fact associated with the earth's magnetism is that geographical south-north axis is not the same as the magnetic north-south axis of the earth. Both of these are inclined to each other at about 5° angle which varies from place to place on the earth.

A number of explanations for this effect have been cited which will be discussed later.

Locating the Poles of a Magnet. Magnetic poles of a magnet do not occur exactly on the surface but inside the magnet which can be located with the help of a magnetic needle. To locate the poles, say of a bar magnet, it is placed on a sheet of paper with boundaries marked on it. A magnetic needle is placed near its two ends in turn and its orientation is noted in each case by drawing a straight line in the needle direction. The point where these two straight lines appear to be intersecting gives the location of the magnetic poles. In locating the poles, the compass needle should be placed nearer to the magnet to the extent possible.

Types of Magnetic Substances. Usually a magnet is supposed to attract a magnetic substance, but this is not the case always. It is found that some substances are repelled slightly by a very strong magnetic field, whereas some substances are attracted to a little extent. Indeed these are substances like iron which are strongly attracted by the field applied. Depending

upon these three types of behaviour, the substances are classified under three heads, namely, diamagnetic substances, para-magnetic substances and ferromagnetic substances *respectively*.

The substances like zinc, bismuth and antimony are feebly repelled by magnets and when brought near magnets set themselves with their axis perpendicular to the pole. These are called diamagnetic substances.

The substances like manganese, platinum and palladium are very feebly attracted by magnets and when brought near a magnet these set themselves with their longer axis along the poles. These are termed as paramagnetic substances.

Substances like iron, steel, nickel, cobalt and some alloys show very strong attraction to a magnet and are called ferromagnetic substances.

These substances are used to make permanent magnets. Magnetic lines of forces cannot easily pass through them. For every such substance there is a fixed temperature called *Curie Temperature* above which the substance loses its permanent ferromagnetism and becomes paramagnetic.

Magnetic field. We know that the magnet affects the magnetic substances placed in its neighbourhood. This region around a magnet is known as 'magnetic field.' It can be likened to the halo around the sages but the expanse of magnetic field around a magnet is not limited like the halo around a sage. Strictly speaking, the magnetic field of a magnet is of infinite expanse although it may be of very small intensity at large distances from the magnet. Moreover, some magnets may give strong magnetic fields whereas others give weaker fields around them. This strength of a magnet is measured by measuring the strength of its poles, that is strength of north or south pole, both being of equal strength. But more relevant to us is the

measurement of magnetic field around a magnet at any point. The strength or intensity of magnetic field at a point is measured in Oersted or Gauss. Magnetic field intensity near the magnets is of high value but it tapers off in its value at places away from the magnet. A laboratory magnet may have maximum magnetic field near it to the order of 1000 gauss (1 kilo-gauss). There can be stronger magnets giving 3 to 4 kilo-gauss field intensities near them. Still stronger magnetic fields can be produced with the help of electromagnets. The advantage in using an electromagnet is that its field strength can be altered at will by altering the quantity of current feeding it.

In magnetotherapy, stronger fields upto 1500 gauss can be used for application to legs, hands, and feet whereas weaker fields upto 500 gauss are sufficient for delicate organs like eyes, temples and the brain.

For measuring magnetic field a simple instrument called Gauss-meter is used which gives direct reading of the intensity (*see* Fig. 12). What one has to do is to place the semiconductor

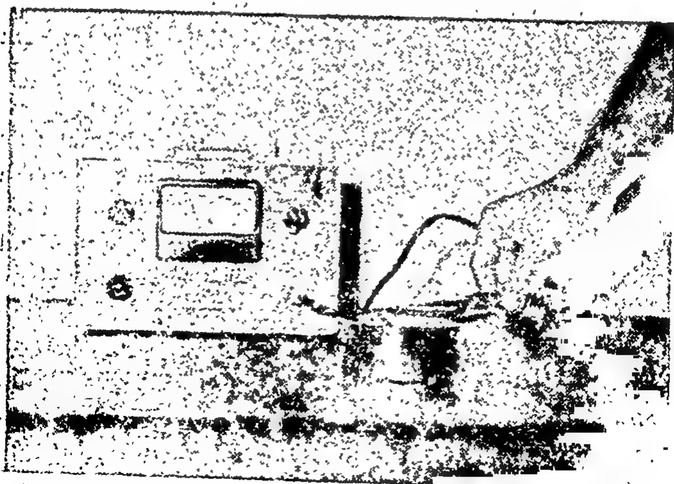


Fig. 12 Gauss-Meter

probe provided with the gauss-meter in place where the value of magnetic field is required and to read directly the value of the magnetic field on the graduated scale of the instrument.

Terrestrial Magnetism

We have already seen how the earth behaves as a magnet of a very big size and of weak strength. The magnetic field produced by this huge magnet is of the order of 0.3 gauss at the surface. Many theories for explaining this effect have been put forth. One convincing theory suggests that the magnetism produced in the case of the earth is due to circulating atmospheric electricity around it as in the case of an electromagnet. The upper layers of atmosphere are mostly ionized and there are plenty of charges which give rise to the circulatory current around the earth when it rotates around its axis of north-south direction. This current makes the core of earth an electromagnet because the earth contains magnetic materials like iron in substantial amounts in the core.

The earth's magnetic field is modified from time to time slightly due to changing magnetic field of the sun and magnetic storms of ionized particles from the sun. When the sunspots are seen on the sun, there is sufficient evidence of disturbance of the earth's upper layer of atmosphere. This changing magnetic field of the sun and the earth has been seen to affect the living creatures on the earth in various ways through their brains. High activity of sunspots accompanies restlessness and other adverse effects on the living organism. This natural phenomenon further suggests that these forces of magnetism should be harnessed for the benefit of man. Magnetotherapy thus stands on a solid ground provided by the nature itself.

Not only the earth and the sun, the magnetic fields have been found around many celestial bodies. The stars and some planets also have very strong magnetic fields

Effect of Current on Magnets

An electric current passing through a conducting wire is always associated with the magnetic field around it. The strength of magnetic field produced is in accordance with the quantity of current through the wire. Also the field produced is stronger near the wire and it tapers off with distance from wire. We know that the magnetic field concept is visualised by the concept of magnetic lines of forces as we have already discussed. Here also the magnetic field is described by the lines of forces and these lines of forces run like closed circles around the conducting wire carrying the electric current. The plane of these concentric magnetic lines of forces is perpendicular to the wire.

One phenomenon which we can now expect is that the magnetic field produced by the electric current will interact with any magnet placed in the neighbourhood. The phenomenon is indeed noticed in practice. The magnet experiences some force due to the electric current through the conducting wire.

We can also expect another similar phenomenon with the present set-up of wire and magnet that the wire carrying the current will experience a force upon it due to the magnetic field of the magnet placed nearby. This fact has been utilized in numerous devices like electricity meters, electric motors and electric-relays used in telephone exchanges and telegraphic lines. The principle underlying is the same that a current produces its own magnetic field which can interact with any other magnetic field.

Yet the third phenomenon associated with currents and magnets is the production of electric current in a conducting wire when this wire is moved in a magnetic field. However, the directions in which the current, the magnetic field and the force experienced or motion imparted can be given by three mutually perpendicular directions at a point like three sides in a corner

of a room. One of these directions is ascribed to the electric current, the other to the magnetic field applied, and the third one to the motion given to the wire or the force produced. The strength of the electric current produced or the force on conductor generator however depends upon the magnetic field applied. An important example of this phenomenon is electric generator or a dynamo. In a dynamo, a coil of conducting wire is moved in a rotatory motion in a magnetic field produced by magnets. The mechanical energy imparted to rotate the coil is converted into the electrical energy and is manifested in the form of current in the rotating coil.

This effect of current on a magnet, effect of magnet on current and effect of motion of conducting wire in magnetic field is manifested in the living organism under special conditions. The body fluids contain numerous ions like Na^+ (Sodium ion) K^+ (Potassium ion), PO_4 (Phosphoric ion) and Cl (Chloride ion). The motion of body fluids then means motion of these ions which means electric current is present due to motion of these ions. Now if magnetic field is applied to the body, as in magnetotherapy, the flow of these ions is modified ; the motion becomes faster and stimulation is produced in the canals carrying these flowing body fluids. This stimulation results in increased activity of that part of the organ and gives encouraging results in the disease.

All the nervous signals again constitute electric current impulses generated in the nervous system produced and carried on by these Na^+ and K^+ ions besides others. The resulting current of these signals again gets greatly modified by application of appropriate magnetic field and the magnetic system gets stimulated for good. When the ions recombine, there is an immense change in the value of current from high value to zero within a very short time resulting in a huge magnetic field pulse of very short duration. These again are modified due to external magnetic field to a great extent resulting in

appreciable change in metabolic and other body reactions which govern the working of the living body.

Further, it can be understood that muscles of the body get signals in the form of electric impulses and thereby mechanical motion is generated in that limb by an experiment of historical importance. The experiment involves taking of a pair of frog legs detached from the rest of the frog's body. If the junction of the legs is connected to one pole of the battery, say positive pole, and the tip of the leg is touched by the other pole of the battery to complete the closed circuit then there is a strong jerk of the legs of the dead frog. If the polarity of the battery is reversed, the direction of the jerk of the legs is also reversed. This shows that electric current through the muscles of frog contracts or relaxes the muscles resulting in the motion of the frog's legs. Now in the living organism where such currents are always present due to signals from the nervous system, the effect of applied magnetic field on the limbs will modify these currents and thus the resulting motion. In this way, magnetotherapy proves to be a strong tool of playing with and manipulating the body reflexes and the internal set-up.

Now the question is how to produce required magnetic field. One way is to use strong and weak magnets of various suitable shapes. Depending upon their shape and strength, these can be used on different parts of the human body in magnetotherapy. The other way which is more manoeuvereable is that of using electromagnets. Stronger the current, the stronger is the magnetic field produced. Such magnets get demagnetised as soon as the current through the thin coil stops. The benefit of using electromagnets is that one can control the magnetic field produced at will by controlling the electric current through its coil.

4

Physical and Biological Effects of Magnets

> My business is not to argue and compare: my business is to create. I must create a system for myself, or else be the slave of some other man's.
>
> **William Blake**

Since the days of yore, magnets and magnetic fields have attracted attention for their use in many fields. The ancients in the vedic times knew the effects of magnets on human organism and therefore used them for curing diseases, mainly those connected with the blood vessels. The ancients also knew the effect of magnetism on sleeping, therefore advised sleeping in the north and south direction with head towards north and feet towards south. Since then the man has ardently tried to harness and utilize this great natural force for multifarious benefits to mankind. Besides the modern use of magnets in numerous electronic gadgets like loud speakers, motors, calculators, computers, radios and scooters, the greatest attention the magnet has received is mainly in the medical and para-medical fields through perchance discovery of their possible therapeutic properties through experimentation in the engineering fields. These experiments have been carried out mainly in the USSR, USA, Japan and to some extent in I
The details of some of these experiments will help the r
in appreciating the great truth that lies behind the u

magnets in therapeutics, and would also help him in understanding the basis on which the healing takes place through magnets. The most recent experiments have been possible as a result of sophisticated equipment like electronic microscope and other electrical equipment for judging the electrical and magnetic impulses of the cells of the body and hence provide a more scientific basis for the effects of magnets. Some of these experiments are described below :

Physical Experiments

These experiments mainly relate to those carried out in the fields of engineering and construction—their analogy has been extended to similar situations in the medical fields.

(*a*) Sometime ago, the Russian scientists were constantly puzzled with an engineering problem in industries which related to boilers, and the pipes carrying the boiler water. The water passing through these pipes had concentration of different types of salts like sodium, potassium, etc, which settled down on the internal walls of the pipes thus reducing the internal diameter and the efficiency of the whole operation. There was no other option for the scientists but to scrub these salts off the walls to help maintain the efficiency of boilers. A similar problem was faced by automobile engineers who found to their chagrin that the radiators of the automobiles got clogged with the similar type of salts dissolved in the water and hence affected their thermal efficiency. Like all the great inventions in the history of science, some of the scientists got an idea to magnetise the water flowing in these pipes or the radiators. To their utter surprise they found that not only the deposits of the salts on the walls stopped, but the magnetised water dissolved the settled salts without any necessity of further scrubbing. This increased the efficiency of the boilers and the radiators and the magnetisation of water was almost immediately taken up by all the concerned industries in that country. This single invention had far-reaching implications in the use of magnets

in the medical field as similar problems of clogging of arteries and veins were found by the medical man due to deposits of cholesterol, salts, etc.

(b) With the initial success in the engineering field, the effects of magnets were further extended to building construction industry. The scientists found that the concrete for building construction could be made stronger by 22 to 36 per cent if made with magnetised water.

(c) Experiments were also carried out to ascertain the effect of magnets on the physical and chemical changes in water, with a view to utilise better the useful emanations of magnets on other fluids like blood. In case of water, it was found that its various properties, namely, temperature, density, surface tension (the property which leads to the formation of a spherical drop), viscosity and electrical conductivity (water is a good conductor of electricity and this property of conductivity is further enhanced). The magnets also favourably affect the speed of sedimentation of suspended particles in water. Similar changes especially in the temperature and conductivity are found when a current is passed through the conductor or water, as part of the electrical energy is converted into heat. Another beneficial effect which helps in better appreciation of the effect of magnets on the blood which is also a fluid, is on the property scientifically called ionisation. An *ion* is an atom or group of atoms bearing a postive or a negative charge and any substance containing the ions is called an electrolyte. For example, if sodium chloride (table salt) is dissolved in water, the solution will contain positive sodium ions, negative chlorine ions, postive hydrogen ions and negative hydroxyl (OH) ions, as well as the water molecules. The breaking of the molecules into their component ions is called a process of ionisation. It was found that when a fluid is brought in contact with a weak magnetic field the process of ionisation is hastened. This finding also has far-reaching implications in the effects of

magnets on the blood as ionisation helps in better flow of blood through the blood vessels.

Biological Experiments

Numerous experiments have been conducted on the effects of magnets and the water treated with magnets on plant growth ; ripening of fruits and vegetables ; increase in the farm yield ; bacteria ; virus ; behaviour of animals, birds, aquatic animals, etc. The results are more than convincing to prove that a magnet and the water treated with magnet has positive effect on the activity of living or life in many ways. These facts are discussed below to understand precisely the role of magnets in bringing about biological changes which will enable the reader to appreciate better the effect on human beings as well as the therapeutic effects of magnets. These experiments have been carried out throughout the world notably in Russia, Japan and USA and conclusions have been drawn on the basis of extensive data collected. In India also, efforts have been made from time to time to carry out such biological experiments which corroborate the findings of the scientists in the above countries. Some of the simple experiments can also be conducted by lay readers who may not have much scientific or medical background.

Exposure of seeds to magnetic field for a short time helps in accelerated sprouting and growth of the seedlings. Such plants also show deeper roots as well as more vigorous growth compared to those which have grown out of the untreated seeds. Recently, it has been found that when the irrigation water is magnetised, the plants grow more rapidly as well as give higher yield compared to those which have been irrigated with ordinary water. Some of the scientists have found that when the irrigation water is magnetised with north pole the plants grow tall and slender while those irrigated with south pole grow shorter and thick. Also, bananas irrigated with south pole treated irrigation water were found to develop larger and

...er in taste. Based on these results, the Russian farmers pro-...d tomatoes and brinjals of the enormous size like those of ...-melon which even the advanced agricultural techniques ...e not been able to produce so far. It was also found that ... plants irrigated with magnetised water grew 20 to 40 per ...t faster than those irrigated with untreated water.

The effect of magnets on unripe fruits and vegetables like ...omatoes have yielded very interesting results. It is certain ...hat these fruits and vegetables ripe much faster when placed ...n the magnetic field. The reason for this appears to be that magnets have positive effect on the enzymatic activity of fruits and vegetables. Similarly, the cooked food, meat, fish and other eatables when kept in the magnetic field of the north pole had far more shelf-life or keeping quality than those kept as such or those kept in the magnetic field of the south pole. Interestingly, the fermentation rate in alcohols and fruits is retarded under the influence of north pole while it is hastened under the influence of the south pole. This clearly indicates that north pole retards the growth of bacteria responsible for putrefaction and fermentation while the south pole enhances the activity of bacteria and thereby enhances the rate of fermen-tation. Related to this is another experiment where norma... tap water filled in a glass bottle is kept over say 1000-gau... magnet for about 24 hours. This water keeps free of a... mould or fungus growth for atleast a fortnight, whereas ... tap water filled in a glass bottle kept as such under norm... room temperature starts showing the mould growth with... 2-3 days. This proves that the water treated with mag... has bacteriophage properties (controlling the grow... bacteria).

The experiments on animals have yielded mor... ing and more confirmatory results than those ... For instance, when fertile hen eggs were ... field for varying lengths of time ... indicated ...

Those eggs which were exposed for a shorter period hatched out a few days earlier than the normal period and were also normal in weight and size, while those exposed for a longer time, did not show early hatching but on the contrary produced smaller chickens. A magnet has shown positive effects on increasing the longevity of and reduction in the tumours in mice. A positive correlationship has also been established on aging of mice, that is those exposed to the magnetic field of about 3 to 4 kilo-gauss age slowly than the untreated ones. Also, the tumour growth partially induced in mice when exposed to periodic magnetic exposure shows retardation and in certain cases complete control of the tumours.

Experiments were also conducted on the physiological aspects of mice especially the content of sodium and potassium in their urine. It was found in the urine collected after exposing the mice to the magnetic field of 20 kilo-gauss that the sodium increased from 2.34 to 4.29 milligrams per millilitre of urine, and potassium increased from 9.14 to 14.59 milligrams per millilitre of urine. This suggests that the magnet has a sure effect on the adrenal gland and its harmone aldosterone which regulates the balance of sodium and potassium in the body.

Studies on the effect of magnetic fields on malignant tumour cells of ascites (abnormal accumulation of fluid in the abdominal cavity) in 11-to 12-week old mice were carried out by injecting 0.1 millilitre of diluted fluid from the above cells in the peritoneal cavity. This induced formation of tumour in the mice which, when 6 to 8 week old, were decapacitated and the fluid was drawn for test. The ascites cells were examined under a microscope. Glass slides on which these cells were kept for examination were exposed to different magnets with varying magnetic field of 1500, 2000, 4400, 7000 and 8000 gauss. No significant difference in the degeneration of the cancer cells was noticed in case of the slides exposed to 1500

000 gauss, while significant change of 25 to 98 per cent in
neration of cancer cells was found in the slides exposed to
to 8000 gauss magnetic power. Conclusion were there-
drawn that strong magnets have positive effect on the
cer cells in animals and also offer promising results in case
cancer in human beings.

In another set of experiment in Puerto Rico and Russia,
he mice and rats exposed to high doses of X-Rays developed
radioactive burns. Most of these animals did not recover from
the exposure. However, when these animals, after severe
exposure were subjected to magnetic fields they survived,
thus proving protection from the harmful effects of radio-
activity.

Certain interesting facts have been reported on the instinc-
tive judgements and activities of certain birds and aquatic
animals. The scientists have been baffled by mass migration
of birds to different lands often flying at night at great altitudes
or in clouds without any geographical landmarks. However,
it has now been established that these migratory birds are
guided to their destination due to magnetic differential o
their wing tips as well as the polarity of the magnet. Similarly
oysters are found to open and close their shells with the ri
and fall of tides which suggests perfect synchronization wi
magnetic oscillations and have helped the scientists in p
pounding the popular theory of biological clocks in hu
beings and animals.

Some human beings and animals have been reporte
experience strange sensations just before the earthqu
They also feel queer and creepy feelings in their brains.
have now been associated with the massive magnetic
bances which occur before earthquakes, suggesting im
correlationship between the magnetism and the nervous

ment in Russia which attracte
n the positive

magnets on animals is the use of magnets on cows. The magnetised cows invariably gave more milk than the untreated ones. This suggested that the magnets favourably influenced the secretory apparatus of the cows, as also brought them into a state of comfort. It has been established that cows generally yield more milk when they are comfortable, contended and happy. *Hence the effect of magnets in the above case could* have been two-fold.

Effect of magnet has also been seen on the activity of certain bacteria specially those which are harmful and produce disease in human beings. One such organism studied by the scientists is *Staphylococcus aureus* which produces skin troubles, stomach disorders and in certain cases chest troubles in human beings. These bacteria when incubated (provided proper conditions for growth and development, as to maintain optimum temperature for the growth of bacteria) in the magnetic fields of 15 kilo-gauss showed complete inhibition of their development after 6 hours. Similar experiments have also been carried out on other bacteria like *Serratia marcescens* and *Eschirichia coli* which produce intestinal disorders in human beings and animals, and the magnet resulted in partial or complete inhibition of their growth. In certain cases, the experiments carried out in USA showed that there was a change in the position of the bacteria due to the influence of the magnetic field.

Studies on Exposure to High Magnetic Fields

Efforts have been made to acertain whether animals subjected to high or intense magnetic fields showed any adverse effects so that, if necessary, caution could be exercised in the use of magnets. The following two experiments prove that no adverse or ill-effects have been so far established due to the exposure of animals to the high magnetic fields. A large number of mice was exposed to a magnetic field as high as 1,20,000 gauss for periods ranging from 10 minutes to one

hour. These mice not only survived the higher exposures but showed no ill-effects on their physiology or behaviour, and improved in weight.

Certain *moulds of the genus Neurospora* were exposed to the magnetic field of 1,40,000 gauss to judge whether it induced any alteration in their genetic make-up. These moulds, sometimes, due to adverse condition, produce such genetic changes (known as mutation) which are continued in the subsequent generations. The experiment showed no mutation in these lower forms of life and thus proved that there was no adverse effect on the plant life as well.

Similar experiments have also been carried out on human beings who have survived prolonged exposure to the magnetic fields of 1,40,000 gauss suggesting safety of high magnetic fields to the higner form of life as well.

The experiments carried out the world over by many scientists specially Dr Madeline F. Barnothy, Professor of Physics, College of Pharmacy, University of Illinois, USA; Professors from University of Virginia; Biomagnetic Research Foundation, USA; Institute of Higher Nervous Activity and Neurophysiology, USSR; Academy of science, USSR, etc, have paved way for utilisation of magnets for more intricate problems of health and disease in animals and human beings which will be discussed in the subsequent chapter.

From the experiments enumerated above, the following conclusions can be drawn :

(i) The magnets have inhibitory action on bacteria and moulds as well as have retarding and controlling action on tumours and cancerous cells.

(ii) The magnets have beneficial effects on plant life as they improve their growth and augment the yield.

(*iii*) The magnets stimulate certain harmones in the l o the animals leading to increase in the milk secretion as well as the regulation of ions like sodium and potassium.

(*iv*) The magnetism helps certain birds and animals in their instinctive behaviour like migration and homing.

Most of these physical and biological experiments have now been extended to medical fields as the medical scientists are on the constant look-out for alternative avenues of medical treatment specially in certain diseases like disorders of locomotion, cancer, kidney stone, etc, which have defied any rational treatment and hence find magnet an invaluable tool in their hands. Some of the medical experiments on human beings will be discussed later.

5

How A Magnet Heals

> Any healing method which is not based on the idea of co-operation with Natural Laws operating through the *body is on a rock-bed of sand, and will eventually break* down.
>
> **V. Stanley Davidson**

We have seen in the earlier chapters that the human body is made up of cells which form tissues and ultimately specialized organs like brain, lungs, liver, kidney, etc. These organs perform specialized functions allotted to them and in strict accordance with the laws of the nature. Scientists have now proved that every cell in the human body is a small magnetic unit and this property is imparted to all the organs. All these organs produce magnetic fields which vary in the intensity and the type of activity, that is, rest or work. The magnetic fields are not constant or static in nature but fluctuate at different times. These magnetic fields are now known to be produced by different organs of the body by electric currents due to sodium, potassium and chloride ions generated in the process of contraction or signal transmission of the tissues. Some of the organs like brain and heart produce very high magnetic fields of incredible degree. For instance, the peak magnetic field produced by brain specially during sleep is to the magnitude of about 3×10^8 gauss (about 300000 kilo-gauss), while the heart produces the peak magnetic field to the

magnitude of about 100 kilo-gauss. Of course, the lowest magnetic field may be much less than these peak values at different times of the day and night and according to types of activities. Hence, different organs of the body have been assigned range and average magnetic values during their normal function in the body. As we know, the electric currents produced by the heart and brain are utilized in electro-cardiography (ECG) and electro-encephalography (EEG). The magnetic values of these organs are utilized for magneto-cardiography (MCG) and magneto-encephalography (MEG). It has also been found that when an organ is damaged or it's function is impeded due to any harmful factors, there is a considerable disturbance in its magnetic field thereby affecting its magnetic values. This information has also been utilized in assessing the conditions of different organs in health and disease and in the prediction of the impending diseases like ischemia, myocardial infarction, etc.

These fluctuating magnetic fields of different organs are greatly influenced by outside factors like earth's magnetic field and the magnetic field of the sun, the moon, etc. A direct correlationship has been established by scientists between the sudden variations in the earth's geomagnetic activity (magnetic storms) and the cases of heart attacks, nervous upsets, etc. The geomagnetic fluctuations are found to affect the electrical and magnetic system of the human heart and brain.

Effect of Solar Storms

The sun possesses more than 99 percent of the total mass in our solar system and hence has enormous solar activity which is measured by the number of sunspots visible on the solar disc. These sunspots are caused by the areas on the sun in which the solar magnetic field is unusually strong—a set of several thousand gauss—compared to the earth's magnetic field which is about 0.6 gauss at the magnetic poles and 0.3 gauss at the magnetic equator. The intense magnetic activity on the sun

moves through the inter-planetary space filled by a plasma (a gas in which negatively-charged electrons are stripped of the atoms, leaving positively-charged ions) which moves at the speed of 400 kilometres per second. When the great solar flares occur the speed of plasma is increased by 1100 kilometres per second which causes great disturbance of the earth's magnetism and in turn disturbs the magnetic potential of all the living beings on the earth. The sudden and rapid fluctuations and pulsations during the geomagnetic disturbances affect the living organism much in the similar manner as the sophisticated electrical equipment is affected by violent electrical fluctuations.

The permanent magnets which are generally man-made have static and constant magnetic fields and therefore are capable of bringing about harmony and equilibrium in the magnetic potential of different organs of the body. Obviously, due to the absence of any violent fluctuations, these do not have any disturbing action on the human organism but act as stabilizers.

Biological Rhythm

It has recently been found that besides being a magnetic unit, each cell in the human body has a number of biological rhythms and its behaviour is affected by the rhythms of all other cells. Millions of such rhythms of different types of cells contribute to a bigger rhythm such as heart beat. Interestingly, it has been established that almost all these biological rhythms follow a 24-hour cycle of a day. We now know that many essential functions like body temperature, blood pressure, brain activity, harmone levels and a host of other factors obey this rhythm Dr Halberg, the eminent scientist and his associates have studied many different types of animal tissues namely, liver, kidney, gland, skin, intestine and other organs to show that all these have a 24-hour biological rhythm. In

human beings and higher animals, hundreds of bio-chemical functions fluctuate regularly and provide a clue to an intelligent physician for proper treatment of different organs. Unlike in health, the synchronized pattern of biological rhythm in disease is disturbed or in other words a disease like cancer puts the affected organ out of rhythm and all efforts to restore the organism to health are essentially towards regularization of the rhythm of the cells.

When we raise our thinking above the cell or tissue level and get into the perfect rhythm in which different planets, solar systems and galaxies move, it becomes apparent that the whole universe is cast into a big biological clock. While the type of elements in and the nature of atmospheres vary from one planet to the other and from any one similar system to the other one, the common force that binds different heavenly bodies together is magnetism. As recently one of the scientists has rightly concluded, the God and the magnetism are the two entities which are omnipresent. It is, therefore, logical to conclude that various biological rhythms are closely associated with the universal magnetism without which the life would be impossible. Hence, magnetism provides harmony and equilibrium in the functions of the human organism and its disturbance leads to a state of disharmony called disease.

Healing Through Blood

As we have seen earlier, all fluids like water are intensely influenced by the effect of magnet through various processes. Ionization is one such effect in which the complex molecules are broken down into smaller positively and negatively charged ions. Besides, there is a profound effect of magnetism on the viscosity, temperature, electrical conductivity, density and surface tension of blood. The RBC's also contains about 4 percent iron which is favourably influenced by magnets. It has been found that with the help of magnets, flow of blood in the arteries and veins is properly regulated

due to the change in the above properties With the regulation in the flow, the oxygenation and proper nutrition of different cells in the body also improves, with the result that the function and harmonization of activity of different tissues is geared up.

The most recent studies carried out on certain characteristics of blood like the white-cell count and erythrocyte sedimentation rate (ESR) which vary in different diseases and infections suggest that there is a positive reduction in the former to a substantial level. Similarly, ESR is considerably reduced suggesting the control of infection, etc, in the body through the effect of magnets. The positive effect of magnets on the red-blood cells (containing iron) has been utilized by the scientists in their separation from the blood plasma and other cells through a very simple method. The scientists earlier used to resort to a tedious chemical method to separate the RBCs. However, they were astonished to find that when they passed the blood over a fine magnetised wire (called steelwool filter), the RBCs settled down while the plasma and other cells passed over freely. The magnetic strength used in this case is to the degree of 17.5 kilo-gauss. This suggests that the magnetic field profoundly affects the blood and brings about many changes in the body. Also, through the magnetised blood, regulation of the magnetic rhythm and the magnetic value of different cells is also ensured ultimately leading to perfect magnetic harmony of the body.

Much similar to the action of the magnet on the water and deposits of salts in the pipes which have been discussed earlier, the effect of a magnet is found on the deposits of cholesterol calcium, urea, etc, in the blood vessels and different organs. As the magnetised blood flows through the blood vessels and different tissues, it dissolves the deposits of the above impurit and discharges out through urine with the result that it exer profound effect on diseases like blood pressure, harden er, arteries, gouty deposits and arthritis. In the similar

the stones formed in the kidney or ureters are slowly dissolved and let out through urine, thus cleaning the organism of unwanted salts.

The trials carried out on the effect of magnetism on reduction in blood cholesterol level suggested that there was a maximum drop of cholesterol from 222 to 141 miligrams after about 22 days period. Similarly, a positive effect was found on reduction in the blood pressure even after a single treatment for 10-15 minutes. These experiments go to show that all the organs in the body are influenced by magnets. This property of magnet can also be achieved by subjecting the ordinary potable water to the influence of magnets for about 12 hours and making a human subject to take that water regularly for a number of days. The water which is directly absorbed in the blood helps in dissolving the kidney stones, etc. In Russia, a number of clinics administer only this healing water to the patients suffering from kidney stones or gall bladder stones as they find this to be of considerable help in such cases.

The human body has been gifted with a self-regulating faculty called homeostasis which regulates and coordinates various functions in the body. One interesting example of this is the regulation of sodium and potassium in the body. Sodium has an important function of maintaining the fluid balance in the body and its deficiency or abnormally high quantities in the body may disturb this equilibrium and lead to many diseases. This important ion is wonderfully regulated in the body through a harmone called aldosterone secreted by the adrenal glands. n the case of ingestion of higher quantities of sodium, these nds slow down the secretion of this harmone leading to er excretion of the sodium from the body. However, in u of intake of low quantities of sodium the glands boost of t roduction of this harmone thereby leading to retention simila dy meagre reserves of sodium in the body. On the the subtle immunological laws work in the body.

The foreign organisms like bacteria or virus or any foreign matter is engulfed by lymphocytes thereby avoiding untold harm to the body. The magnets are found to have a favourable effect on this self-regulating faculty in the body by strengthening the immunological system as well as the vital force in the body with the result that the body is able to fight the morbid affections in the most natural way.

As has been discussed in the earlier chapters, almost all functions in the body are regulated by the harmones secreted by various glands like pituitary, thyroid, adrenal and pineal. These also help in higher functions of the brain like memory, intellect, will, etc. Innumerable experiments carried out with magnets prove that these can regulate the functions of various glands and also favourably affect the higher faculties of mind. This is mainly achieved through two processes, namely, one by direct effect of magnet on the secretion of harmones by glands and the other by supply of proper nutrition and oxygen to all these glands through magnetised blood as has been discussed earlier. We have also seen the effects of magnets on the adrenal glands. A similar effect is found on the pituitary gland which regulates many functions including the growth and height of young prople. The effect of magnets on these glands has shown increase in height in case of dwarfs. In the case of the thyroid gland, better utilization of iodine and effect on thyroxine has been noticed thus leading to quicker mitigation of the diseases like goitre. A similar effect of small-power magnets on the brain invariably helps in better concentration, better memory and intelligence in a person. The people who perform meditation regularly have verified the positive effect of magnet on the faculty of concentration during meditation. This suggests that the magnets through their effect the glands and higher faculties of the brain have a favour[illegible] effect on almost all the tissues of the body and bring [illegible] and order in their functioning.

that even the healthy people applying magnets regularly find themselves more vigorous and capable of doing more work.

Magnets are also found to have a beneficial effect on mitigation of pain, swelling and stiffness in different parts. This is mainly because the magnets have a soothing effect on the tissues and nerves due to the improved circulation which in turn leads to rise in the temperature of the skin and the tissue in the similar manner as a high-density current heats the tissue or a strong current heats the resistance wire of an infra-ray generator. Hence, magnetic application to any part results in three simultaneous actions, namely, improved circulation, generation of heat leading to a fomentation effect and relaxation of muscles leading to mitigation of stiffness. In Japan, a number of magnetic materials like necklaces, belts, bands and chains are being used to treat patients suffering from pains and stiffness [*see* Fig. 13 (*a*) and (*b*)]. In case of pain due to



Fig. 13 (*a*) Magnetic Materials

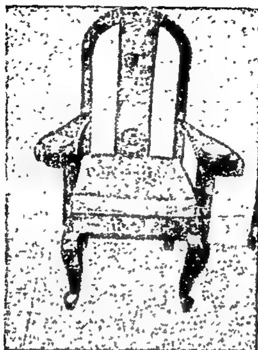


Fig. 13 (*b*) Magnetic Chair

infection like that found in dental caries or pyorrhoea, the north pole inhibits the action of the pus-forming bacteria thereby cutting short their action and mitigating pain and swelling. In addition, the improved circulation in such cases helps in better oxygenation of the tissues which suffer from congestion and lack of it and ultimately to rejuvenation of the cells and quick recovery.

Similarity with Electro-Therapy

Use of electricity in the treatment of various diseases is known for past many decades. We have also established in the earlier chapter a close relationship between electricity and magnetism ; in fact one generates the other and both are inseparable. In order to better appreciate the effect of magnets

on living tissue and the manner in which these exert beneficial influence on various organs, some of the salient features of electro-therapy are discussed below which have been correlated with the curative properties of magnets. Physiological and biological effects of a current on living tissues such as skin, nerves, muscles and blood vessels have been very well established and so are their thermal, magnetic and chemical effects. It has been found that when a constant-current treatment is given, the blood vessels of the skin dilate and the increased circulation produces redness in the skin which is known as erythema. At the same time, the deep blood vessels in the neighbourhood are also dilated and their blood circulation increases by reflex. It has also been established that the constant current has a soothing effect on deep tissues mainly due to the improved circulation. Two terms which are commonly given to the conditions of diminished excitability—conductivity in the region of anode (positive electrode) and the increased excitability—conductivity in the region of cathode (negative electrode) are anelectrotonus and katelectrotonus, respectively. The use of constant current on the living tissue suggests that there is more irritation and erythema under the kathode than under the anode. If the kathode is placed on the affected part and the current passed on of as high density as the skin will take without causing a burn, counter-irritation effect can be produced. The skin generally tolerates more than two milliamperes per 25 millimetre square. The counter-irritation means the application of an irritant to ease pain. It also increases blood supply to a part when employed for chronic traumatic or rheumatic inflammation. The improved circulation increases the exudation of leucocytes (white blood cells) in blood fluid which is followed later by increased absorption of the exudation. Similarly, the anode seems to have a soothing effect on the bone when used with the low current density. It also promotes absorption of the exudation in acute inflammation.

The low-density constant current when applied to the head with electrodes on the forehead and back of neck, produces refreshing effect especially in conditions like neuralgia and excessive fatigue of neurotic origin. The current also improves the circulation through the brain and possibly causes the removal of the ions of the fatigue products. On the similar basis as the effect of magnets on muscle fatigue, high currents reduce the feeling of fatigue and ache in the legs after severe exercise.

The constant current has also been used to destroy bacteria and good results have been obtained with it in wounds of the forearms, nose, legs, etc.

The Body as an Electrolyte

The tissues of the body contain ions The blood and the muscles contain more ions and, therefore, are good conductors of electricity, while the fat, the bone and the skin contain less ions and are poor conductors of electricity. This also explains the mode of beneficial effect of magnets on blood, muscles, nerves, etc, which conduct the magnetism effectively and also help in recovery in case of a morbid affection.

The modern physiotherapists make the use of long and short wave diathermy in case of various diseases Diathermy is a technique of generation of heat in the body tissue due to resistance offered by the tissue to the high-frequency electro-current passed through them. The short-wave diathermy is carried out with frequency current of wave-lengths less than 30 metres. It has been found that the short-wave diathermy has greater effect on the deeper tissues of the body. The heat causes dilatation of the blood vessels and the increased local blood flow which is partly due to the diminished viscosity of the blood, following the rise in temperature. The diathermy of the blood vessels and the diminished viscosity of the blood lower peripheral resistance It is commonly found that the diathermy causes a slight fall in the blood pressure which is associated with the increased pulse and respiratory rate.

The main principle on which the diathermy works on pains and inflammations is that the heat relieves pain and relaxes muscles. The improved circulation causes enhanced exudation of the fluid and the white blood cells, the latter engulfing bacteria and dead tissue. Thus, the whole process helps in clearing up the inflammation. The diathermy has been found to be useful in chronic arthritis, neuritis, septic infection and inflammation. The other conditions for which the diathermy has been found to be useful are poor circulation, paralysis, high blood pressure, low body temperature or high temperature.

For the purpose of the diathermy, two electrodes—positive and negative—are simultaneously applied at some distance from the skin. These electrodes are about 7 to 10 cm in diameter. For instance, in case of application on the shoulder joint the electrodes are commonly placed on the anterior (front) and posterior (back) side of the electric conductor through which the current enters or leaves the cell and helps the body in the healing process. The therapeutic electrodes are generally made of carbon.

It is a matter of common knowledge that electricity generally moves from positive to negative which is shown by the electric lines of force. In a magnet also, we find the magnetic lines of force flow from the north to the south pole. Hence the north pole should be considered as positive and the south pole as negative. As in diathermy, the two poles of the magnets, namely, positive and negative are applied simultaneously in the general treatment of diseases.

Similarly, we have seen in the foregoing paragraphs and chapters that identical effects in the conditions like pain, inflammation, muscle fatigue and poor circulation are induced by magnets. Hence, a scientific corollary can be drawn between the biological effects of the electricity as used in physiotherapy and the magnets as used for the cure of many diseases in magnetotherapy.

6

Healing Water

I think that the very word "cure" will change its original meaning. There will be time when diseases will lose their grip on human beings. We will then discuss not the temporary repairs of an ailing body, but a rapid and decisive extirpation of the very source of disease.

A. Shvarts—*The Code of Life*

We have seen in Chapter 3 that different substances like iron, nickel and zinc have been classified into para-magnetic, dia-magnetic and ferro-magnetic materials depending upon the intensity of attraction and repulsion of these substances with the magnet. We have also seen that the magnetic force is not obstructed by any of the above substances if kept between the magnet and the conductor The skin, the blood vessels, the fat and the nerves are not only conductors of electricity and magnetism but are also beneficially influenced by magnets. Some other substances like water and other similar fluids also fall in the category of para-magnetic substances and seem to be favourably influenced by a magnet through a number of changes in them which have already been discussed in the earlier chapters. For a long time now, the water treated with magnets has been utilised for various therapeutic purposes as it imbibes the healing powers of magnets. As a living organism contains about 70 to 80 percent water, the indomitable influence of this marvellous fluid in carrying out various body functions

oil and various types of ointments especially those used in Homoeopathy—*calendula, arnica and sulphur*—can also be magnetised in the similar manner. The oils can be used for the application to hair or for any skin conditions like chapped condition, dry skin, cuts, wounds, etc.

General Therapeutic Effects

While the use of the healing water in the individual diseases would be discussed later, some of the general conditions in which the healing water can be used with advantage are discussed below. The magnetised water has been bestowed with curative powers as have been discussed to some extent in the earlier chapter and also acts as a preventive in certain diseases. In the curative therapeutic range are the diseases associated with alimentary canal, uro-genital system as well as the circulatory system. The healing water not only helps in stimulating the secretion of various enzymatic fluids in the body but also helps in proper assimilation of the various nutrients and their carriage to the cells. The healing water also favourably affects the circulatory and urinary systems by toning up the functions of the kidneys and dissolving the deposits of various salts including kidney stone as well as speedy disposal of the waste material from the body through urine, sweat, etc.

As a preventive, the healing water can be used during epidemic of measles, chicken-pox, influenza, dengue fever, etc. Hence, the healing water plays an important role in immunotherapy which aims at raising the immunological status of the body in curing various diseases. According to the Ayurvedic and Unani systems of treatment it is believed that body becomes susceptible to a host of diseases mainly due to accumulation of various metabolic wastes and toxins in the body, which leads to putrefaction, and toxaemia (many morbid conditions owing to accumulation of toxins and sluggish functions of different excretory organs). Hence, the treatment

is directed towards proper elimination of these wastes and toxins from the body. On the similar principle, the use of healing water helps in proper elimination of the morbid matter from the body thereby leading to improved functions of the different organs.

We have already seen the effect of magnets on the infection; the same also extends to the use of the healing water. This explains the infallible effect of the healing water in the prevention and cure of various infectious diseases. It sometimes comes as a wonder to find such simple remedies as the magnetised water to be useful in a score of diseases where the modern and the so-called rational method of treatment has failed. This goes to prove the sayings of the ancient sages and seers that the simplicity is the basis of life and that the truth in its simplest form is more effective than its modern complexities. There are innumerable instances in the world where a number of intriguing diseases which have baffled the best of the medical men have been cured by the administration of very simple natural remedies derived from wild herbs and shrubs growing in abundance. It also goes to prove the old axiom that the god has created a counter-part of the positive force (medicine) for every negative force (disease) affecting life. Hence, for the morbid and negative force of disease in case of a living organism, the major part of which comprises water, no wonder the same water treated with the natural emanations of magnets provides the positive force and mitigates disease according to the natural law of similars.

Besides USSR, the USA and Japan have also harnessed this important healing fluid for the cure of various diseases and have obtained promising results.

7

Healing Oils

......*This spirit-like power to alter man's state of health which lies hidden in the inner nature of medicines can in itself never be discovered by us by a mere effort of reason; it is only by experience of the phenomena it displays when acting on the state of health of man that we can become clearly cognizant of it.*

S. Hahnemann—*Organon of Medicine*

We find in the earlier chapter that the ordinary drinking water develops healing powers under the influence of a magnet. There are other simple substances like oils that can be similarly developed into strong therapeutic tools by exposing these to magnets. These oils can be used in a number of ailments like eczema, arthritis, sciatica and whooping-cough . Some other types of the oils are used on the theory of chromotherapy by which the benevolent and potent emanations of the sun are 'trapped' in the oil The specific use of these oils will be discussed under the treatment of individual diseases in the subsequent chapter However, the method of preparation and broad indications in the use of these oils are given here :

North-Pole Oil. Take a clean colourless bottle, prefera[illegible] round in shape, and fill with coconut or *til* (sesam[illegible] Keep the bottle over the north pole of the strong [illegible] magnet for 15 days. After this period, shake the b[illegible] and label it as north-pole oil for use in painful [illegible]

diseases. The north-pole oil is useful in all infections and can also be used for sun-bathing of the affected part.

South-Pole Oil. Take a clean colourless bottle, preferably round in shape, and fill with coconut or *til* oil. Keep the bottle over the south pole of the strong healing magnet for 15 days. After this period, shake the bottle well and label it as south-pole oil. The oil is useful in painful affections like sciatica, cervical spondylosis and lumbago. Do not use this oil where infection is suspected. It can also be used for sun-bathing of the affected part.

Blue-Oil. Take a clean dark-blue bottle of any shape and size and fill it with coconut oil. Keep it in the sun for a minimum period of 21 days. However, it can be exposed to the sun even for longer periods upto six months which increases its potency and value for use in different diseases. This oil is highly cooling in effect and can be used with advantage in swellings, painful inflammations, congestions, boils, etc. When applied to the forehead and temples in high fever, it rapidly shrinks the blood vessels thereby clearing the congestion and lowering the temperature. It should not be applied where heat is required. Label this oil as blue-oil and keept it for use in different diseases.

Red-Oil. Take a clean red or deep-orange coloured bottle of any shape and size and fill it with *til* oil. Keep it in the sun for a minimum period of 21 days or extended periods upto six months. This oil has highly warming properties and can be used in diseases like arthritis, sciatica and spondylosis. It is especially beneficial if used before sun-bathing of an affected part. Label the bottle as red-oil and keep it for use in a number of diseases.

In case both the blue and red oils are to be prepared simultaneously, care should be taken to keep the two bottles sufficiently apart to avoid the shadow from one bottle falling on the other.

Sun-Bathing. All life on this planet is dependent on the sun or the 'eternal star' which has been so compactly packed with all the elements starting from the simple helium to uranium and beyond in the chemical periodic table. The sunlight when passed through a prism separates into a spectrum of seven lights, namely, violent, indigo, blue, green, yellow, orange and red (in short form called VIBGYOR). There are two more colours called ultra-violet and infra-red which fall beyond this range, but have many useful properties. For instance, ultra-violent light is good for the skin and many other ailments that will be discussed later. The infra-red light has a wave length between 7700 to 120000 angstroms and has a soothing effect on pain, cramps and sprains. It is commonly used in pain-relief methods. Sun-bathing of an affected part of the body is an age-old method and has stood the test of time in a number of painful affections like rheumatism, arthritis, etc.

Procedure of Sun-Bathing. Sun-bath should be taken early in the morning around 6.30 in the summer and around 8.00 in the winter. The affected part should first be directly exposed to the sun for 10 minutes, after which the red-oil should be applied. This should then be covered with the red cellophane paper (as is used by the sweet-meat shops) and the part exposed further to the sun for 15 minutes (*see* Fig. 15). The period can be gradually increased to 30 minutes. For instance, in case of rheumatoid arthritis of knees the patient should sit in such a manner, that his or her eyes are shielded from the sun, but the knees are exposed to it. This method of sun-bathing is highly scientific and may be a necessary adjunct to the treatment with magnets. In many painful affections like spondylosis, gout, osteo-arthritis, the sun-bathing affords assured relief. However, the method will be further elaborated under the individual diseases in a later chapter.



Fig. 15 Technique of Sun-Bathing

In the similar manner, the use of the magnetised oils or the blue- and red-oils can be made during magnetic treatment. The part on which the magnet is to be applied should be cleaned properly. Any of the oils as will be recommended in the individual diseases, should be lightly rubbed on the affected part. A piece of cotton, cloth or napkin may be kept on the oiled part over which the magnets should be placed sa per the procedure laid down in chapter 11.

8

Suppression or Cure

> The course of treatment which cures the original disease but produces some other kind of complication is not correct line of treatment; the correct one is that which cures but does not provoke any other.
>
> **Charaka**—*Nidana 823*

A question is often raised whether the application of magnets in various diseases amounts to local application and if so, does it not lead to suppression rather than a rational cure. These are pertinent questions which arise from the rationale of the scientific mind. With a view to answer these questions scientifically let us understand the true meaning of the term local application as related to the treatment of diseases.

Since earliest times, some of the diseases like eczema, tumours and out-growths were considered to be merely an external manifestation and had no link, whatsoever, with the internal turmoil in an organism. These were, therefore, treated with external means that is ointments, cauterization, etc, and when the disease was driven into the inner recesses,

it was dealt with by purging to drive it out. Similarly, the use of leeches, acids and alkalis was made in external application. Even now, some of the constitutional conditions manifesting on the surface of the body are dealt with locally thus paving the way for more serious internal maladies. Even the chronic nasal and throat conditions are suppressed through local sprays and paints as though these were but the unrelated parts having no bearing on the other organs of the body. Similarly, douches, ear washes, eye drops, cough suppressant tablets, sinus punctures, etc, belong to the same category of local applications. These are not only irrational modes of treatment but undermine the wisdom of the mother nature. Whenever any subtle disease force assaults the equally subtle life-force, trying to derange the vital force of the organism, the body in its own wisdom throws the offending disease force to the safest part that is the skin and spares the vital organs like heart, lungs, and liver from the malevolent influence. A classic example is found in case of eruptive fevers like measles. We all know that more abundant the eruptions on the skin, better it is for the patient as he or she will be saved of the internal disorder and vice versa. In case, any attempt is made through strong drugs to suppress the eruptions, the patient suffers internally and his condition becomes worse. Thus the natural flow of disease is from within outward. Any attempt to reverse this subtle force is bound to bring chaos in the economy of an organism. We can, therefore, appreciate how unwise it is to suppress some of the constitutional diseases like eczema.

It is easy to deduce from the foregoing that any form of medication which ignores the oneness of the organism or fails to have a wholistic approach to disease is bound to meet with untold failure and is bound to inflict more harm on the body than even the original malady. We can also conclude from this that the local application is purely superficial and cannot have a deep or long-lasting action to mitigate severe ailments that plague the mankind. It can, at most, palliate for a short

while and bring back the morbid affection as rapidly as it vanishes. In the words of Dr Hahnemann, the greatest medical scientist of our times who rationalized the concept of disease and medicine, "such palliative antipathic remedies were never employed in allaying the prominent symptoms and protracted diseases without being followed in a few hours by the contrary condition, that is, the return of the evil, often seriously aggravated."

The suppressson of the disease force can be harmful or even fatal for an organism and can be gauged by the more serious form that the original disease can adopt. Thus, in diarrhoea, the suppression with harsh medicine will often produce constipation, then fever and a morbid tendency to delirium. It is well known in the medical histories of the world that during earlier epidemics of cholera in infants and children, the use of opium to stop diarrhoea (which it promptly did) led to a very serious condition known as hydrocephalus (accumulation of fluid within the skull, with enlargement of head, atrophy of brain, weakness and convulsions). Many children succumbed to the secondary effects of opium than the natural disease. The change in the nature and seat of the disease is commonly known as metastasis, and that is what we find with many a suppressive drug in the modern times, except that an innocent and unsuspecting patient may not be able to link the new malady with the suppression of the old one. Similarly, the local suppression of the natural secretions of the body like sweat in the armpits or feet, which helps in the elimination of the body waste can lead to serious effects.

Having understood the idea of the local application and suppression, let us turn to the concept of rational cure which should be the aim of every physician and the well-wisher of the mankind. The cure in its most rational sense connotes the meaning of rapid, gentle and permanent elimination of all

symptoms which constitute the so-called disease. It includes restoration of the harmony in all the functions of the body, imparting a sense of well-being and a will to live and enjoy the life which the Author of Nature has given us, for it is no idle gift.

Let us now revert to our original question whether the application of magnets in disease constitutes local application and suppression or it is a cure—the long cherished desire of the patient and the true physician.

Firstly, when a magnet is applied to the body, it influences the entire organism and not just the part in contact with it. As it normalizes the functions of different organs the morbid effects arising out of their malfunction are naturally corrected. Hence, it cannot be termed as a local application. For instance, in case of a rheumatic affection, the application of magnets helps in improving the cirulcation, which in turn produces heat and subsequently leads to quicker dissolution and elimination of metabolic wastes from the body. All these lead to beneficial effect in case of the painful rheumatic affection.

Secondly, the curative principles of magnets are based upon natural laws of the omnipresent magnetism. Therefore, there is a concept of similarity between the disease which is the disharmony of the magnetic fields of the cells and the external magnetic force, thus restoring the harmony in the body functions. Moreover, it has been found that the treatment with magnets does not drive in the disease forces nor the disease returns in the worse condition than the original. Also, no metastatic changes are encountered with such treatment, suggesting that there is no suppression of the disease. Sometimes, after cure of some diseases, the condition may return temporarily due to certain exciting climatic, dietetic or emotional causes, but the renewed application of magnets quickly puts a stop to the interruption and restores the harmony in the organism.

Thirdly, the treatment through magnets is devoid of any harsh or damaging practices like blood letting, suppressant sprays, ointments, etc, and, therefore, offers a rational and drugless mode of treatment based on the ancient knowledge and wisdom.

It is, therefore, logical to conclude that the magnetic treatment is not only not a local application nor suppressive in effect but affords a long-lasting scientific cure of all the curable diseases and assured relief in some incurable diseases like ankylosing spondylitis

Affinity with Other Therapies

While at the subject of natural laws and the rationale of magnetic treatment, let us discuss the aspect of natural affinity of magnetotherapy with the other systems of treatment. This is an other area demanding attention and a logical explanation.

We have already observed in the foregoing paragraphs that the magnetic treatment is based on the natural laws and utilizes the omnipresent and benevolent emanations of magnets. Hence, it has the greatest affinity towards those systems that are also based on the natural laws. These are Naturopathy and Homoeopathy. These systems have won the true distinction of the most rational systems of treatment with a wholistic approach. Besides, all these systems have an emphasis on the health rather than the disease. Another system of treatment closer to this system is the Acupuncture or Acupressure which is based on the postulation of the natural flow of 'chi' or life-force through various well-explained meridians. It also aims at strengthening the vital force and the immunity mechanism in the body. Hence, the magnetic treatment can go favourably alongside these three systems of medicine. However, it is not taboo to undertake this treatment even though a patient is under the care of the Allopathic or Ayurvedic or Unani systems of treatment.

9

Taking the Case

> Medical practice has become almost synonymous with curative medicine and doctors trained predominantly to look at episodes of disease paying little attention to the whole man and to his interaction with society.
>
> **H. Mahler**

Before understanding the scientific method and the use of magnets in different diseases, it is necessary to know as to what is to be cured in a patient. This necessitates tracing the history of the development of the disease to the present form, with all concomitant symptoms having bearing on the case.

Case-taking is also necessary to ascertain the length of disease, involvement of different organs, exact seat of the affection like pain and whether the disease is of the progressive nature.

In taking the case, two distinct steps are involved. These are ; (*a*) interrogation of the patient and his near relatives, and (*b*) examination of the patient.

(*a*) *Interrogation of the patient.* A patient should be seated comfortably and should be asked to narrate his case. Most likely he will start his narration with the most troublesome symptoms like intense pain or stiffness. This is termed as

entrance complaint. This will be followed by the history of the development of the case and various modalities like what makes the trouble worse and what affords relief. It is essential to write each symptom of the patient legibly and on a separate line and not to interrupt him as it may break his chain of thought. Record of all injuries, fractures, and falls should be carefully recorded as these provide useful information for the precise mode of application of magnets. Record should also be kept of all the previous diseases from which the patient might have suffered or is currently suffering though these may not be related with his entrance complaint. For instance, his chief complaint may be sciatica pain, but he may also be suffering from scanty urine, suggesting the necessity of the administration of healing water together with the appropriate method of application of magnets that will be discussed later Or he may be suffering from headache as well as pyorrhoea, suggesting the possibility of infiltration of pus in the blood stream causing toxic effects. This may also necessitate the intake of healing water for proper elimination of pus from the body as well as gargling with the healing water prepared on north pole, along with the appropriate method of application of magnets. Some of the mental symptoms like effects of grief, shock and insomnia due to financial loss, provide clue to the cause of the disease and help in deciding on the correct mode of treatment.

After the patient has finished with his narration of the symptoms, detailed information should be sought on the functioning of various systems of the body, for the example, how is your bowel movement? How is your appetite and thirst? Did you any time pass blood in your stools or urine? Do you feel giddiness any time and if so, under what circumstances? Does your pain extend to any other part, if so where? It is better to avoid any leading question or any question, which the patient may be tempeted to reply in a monosyllable like 'yes' or 'no'.

Each symptom should be qualified by the modifying conditions—the aggravating and ameliorating conditions like those of movement, sleep, pressure and time. In case of female patients the information on the menstruation is very important. Find out if she feels unusual pain during menses, or has noticed any white discharge. Also, if the menses are regular, scanty, profuse, etc.

After the interrogation of the patient, the near relatives may be asked to add to the information, if necessary. They might be able to provide supplementary information especially if they have observed any peculiarities which the patient himself has failed to notice.

All the above factors are essential to visualize the complete picture of the disease.

(*b*) *Examination of the patient.* After the careful interrogation of the patient and recording of the symptoms, it is necessary to undertake the physical examination of the patient. Carefully examine the painful parts to find out any swelling, redness, tenderness, blueness, change in the normal shape of the organs, etc. Move from the seat of the pain to the terminal portion whereto the pain may radiate or extend. For instance, locate the painful vertebra in the cervical region (neck) and conduct the examination along the shoulders down to the arm or hand if the pain extends to the parts and notice any inflammation, stiffness, restricted movement, etc. The points of radiation or extension of pain are very significant in the treatment with magnets.

Next, observe any swelling in the front portion of neck which may suggest thyroid trouble, or swelling of other glands on sides of the neck, in the armpits, tonsils, gums, etc. In case of children observe the size of the head, shape of legs, thickness of wrist (this may provide important information on malassimilation of calcium in the body or deficiency).

Besides the above, observe any swelling, tenderness in the abdominal region especially the liver and spleen. In case of females, observe any swelling and tenderness in the ovarian region (about 5 to 7 cm below the navel).

In case of paralysis, spondylosis, arthritis, lumbago, etc, observe the coldness of the parts and the nature and direction of movements which cause maximum pain and stiffness. In addition, find out if there is any wasting of muscles, abnormal out-growths, ganglia, loss of power, numbness, perspiration on the affected parts, etc. In the above affections, observe carefully the gait of the patient, his normal posture in standing and sitting so that timely advice on the correct posture could be given.

In case of wounds, it is necessary to observe any pus, infection, etc. Also observe the type of blood, whether red or dark or black, from any part of the body, be it bowels, nose, mouth, ears, etc. This provides clue as to whether haemorrhage is from the arteries or the veins or whether any deep tissues are involved.

In case of suspected *fracture of* bones, observe whether there is intense pain at or near the seat of the fracture, discomfort on slightest pressure over the affected part, swelling, loss of power, terrible pain on slightest exertion to move the part, deformity of the limb, irregularity of the bone, grating sound and any unnatural movement at the seat of the fracture.

Similarly, examine for any dislocations of bones at joints, sprains (wrenching or tearing of the *ligaments and tissues* round a joint), strains due to overstretching of muscles, and rupturing of muscles.

Finally, examine the tongue—whether it is highly coated (which is suggestive of gastric derangement) ; colour of whites of eyes and inner margin of the lids ; finger nails (which may

show white specs or streaks and also give an idea of the nutritional status of a person). Also, take the pulse-rate, the count per minute and whether it is soft, hard, full, irregular, imperceptible, incompressible, etc, which suggest different types of disturbances. It is not the scope of this book to describe various types of pulses as linked to different diseases as pulse reading and interpretation itself is a vast subject and volumes can be written on the subject. The reader is advised to refer to some authentic literature on the subject.

Anyone engaged in the noble task of treatment of human ailments must be observant from the moment the patient enters the clinic and should be perseverent with each case avoiding slip-shod prescribing. Where no written guidelines are found in dealing with any case, one should not feel belittled by consulting other fellow magnetotherapists. In certain cases, a common-sense approach to the disease surely mitigates disease and brings rich dividends by way of appreciative smiles from the grateful patients or sweet giggles from the children in agony and pain.

After obtaining a complete picture of the case, recourse should be taken to proper mode of treatment best suited to an individual as will be discussed later.

10

Susceptibility

> Susceptibility in organism, mental or bodily, is equivalent to *state*. State involves the attitude of organizations to internal causes and to external circumstances. It is all the resourse of defence or the way of yielding. The taking on of states is the history of human life. . . . In health, we live and act and resist without knowing it. In disease we live but suffer; and know *ourself* in conscious or unconscious exaggeration.
>
> **J. J. Garth Wilkinson**

No two individuals are alike in looks, nature, behaviour and response to the external environmental forces. Even fingerprints do not find two exact similars in the whole world, suggesting strict individuality shared by us all. In our daily life we come across different individuals who are over-sensitive to external impressions, as against the others who are 'thick-skinned'.

Some children instantly develop hoarse cough on drinking a few sips of refrigerated water, while the others are not the least affected. In other words, individuals differ in their degree of susceptibility to outer stimuli and respond to these at varying levels. An individual who over-reacts to a given stimulus is more susceptible than the one who is deficient in such reaction.

How can we explain such a strange phenomenon where one is caught in a pitiable situation while the other goes scot-free under similar set of conditions. Why does an infant who has just arrived in the world show such exaggerated reaction to merely a spoon of cold water. Obviously, the susceptibility lay in him much before he collected the mass of blood and flesh; it lay somewhere in his abysmal past in the lives of his parents, grandparents and great grandparents. He is only displaying the inherited load from his ancestors. Therefore, it is well-nigh impossible to get at the root of this enigma called susceptibility.

However, the Lord of this universe has equipped human beings with the faculty to observe and study the conditions which bring about the exaggerated response from an individual and utilize it for his benefit.

Susceptibility is not always negative in its effects. It has certain positive aspects as well. For instance, it has been found that the educated and intelligent persons are more susceptible to the external impressions as well to the medicine —thus they acquire more sensitive minds and thereby excel at finer arts.

Children are also more susceptible to medicine and auto-suggestions than the older persons and therefore show rapid recovery and behavioural improvement.

The negative side of susceptibility brings a dismal picture before the mind. We have known the agony of asthma patients owing to their over-sensitivity to certain antigens such as dust, pollens, strong smells, eggs, milk, etc. Sometimes the over-sensitivity of an individual can take such an ugly shape that it can be fatal as in case of drug-induced shocks commonly known as anaphylaxis.

We find the similar varying pattern of susceptibility among different individuals undergoing treatment through magnets.

In some patients it may take days or even months to elicit perceptible response while the others show effects in a few days or even a few sittings.

As for the intensity of the susceptibility, some patients do not feel any sensation even if they continue the application for an hour or so, while the others cannot stand exposure to a magnet even for a few minutes.

There are numerous cases especially those of paralysis or sciatica where a patient would not allow the exposure beyond 15 seconds ; as all the nerves are drawn up causing unbearable *spastic condition. Such is the susceptibility in certain* other individuals that they would draw the part away from the magnetic field although the magnet is kept at a distance and merely for a few seconds.

Hence the response of every individual determines the rate and length of treatment with magnets, while it may be impossible for extremely sensitive patients to be reasonably cured as they simply can't undergo such treatment Even though a patient may not feel any perceptible sensation on contact with a magnet, the latter silently works on the blood, nerves, muscles and bones and brings about desired effects.

Therefore, everyone is susceptible to a magnet—some to a lesser degree while the others to a greater magnitude. No one can claim to be unsensitive to the magnetic force, for there would be no life without magnetism—possibly no visible manifestation of life or non-life without it.

For possible explanation of the over-sensitiveness or deficient reaction to a magnet we may again have to dive into the depth of the heredity. However, the theory of exaggerated or deficient cell-magnetism in different individuals may approach the problem on the logical plane. As we have t[illegible] earlier, each human body cell is a magnetic

similar groups of cells—organs—have varying magnetic fields. The overall excessive or scanty magnetic power (leading to concept of plus and minus energy) in the body determines the tendency of the body to either 'give' or 'take' the magnetism. The extra-susceptibility of certain individuals to magnetism suggests the excess of magnetic power in the body while those with under-reaction have deficiency of this vital natural energy. They, therefore, react differently to the application of magnets. Interestingly, the magnet is a great 'equalizer' or 'normalizer' to the advantage of the mankind.

Thus in the words of Claude Bernard :

"we must recognise that any divisions into science are not a part of nature ; they rest only in the mind which, by reasons of its infirmity is forced to create categorisation of bodies or phenomena, so as to understand them better by studying their characteristics or properties from social point of view. It follows that the same body may be studied minerologically, physically, chemically, etc, but in nature there is neither chemistry nor physics, nor zoology, nor physiology, nor pathology, there are only bodies to be classified or phenomena to be known and mastered."

Extending further Dr Bernard's thought-provoking and refreshing postulation about the human body, we can conclude that the human body can also be studied magnetically as has been brought out in a great detail in the earlier chapters.

Depending upon the degree of susceptibility, we can decide on the approximate duration of treatment necessary to restore the sick to health.

11

How to Use Magnets in Disease

> Empiric medicine guesses, recommends, tries, hits and misses, misses and hits again. Scientific medicine does not guess. Scientific medicine, like any other scientific act, compares effects, sensations and motions with corresponding effects, corresponding sensations and motions.
>
> **James Krauss**

So far we have discussed the principles of cure by magnets in the light of extensive experimentation on plants, micro-organisms, animals and human beings. We have also seen how and why a magnet heals and annihilates the morbid affections that constitute disease. Let us now turn to the important practical aspect of application of magnets in different diseases utilising the available knowledge of bio-magnetism. Similar to *other medical systems of treatment, treatment with magnet is* an art which can be mastered only through perseverance and constant study of the biological effects of magnets in health and disease. It also demands consummate knowledge of the basic systems and functions of the human body as well as the principles of application of magnets to the sick organism. It is through these positive traits and the open mindedness that many practitioners of Magnetotherapy have achieved success with magnets — even intractable diseases like cancer. It is refreshing to know

that at last there is a natural force pervading the living and the non-living that brings succour to the ailing humanity and can answer questions hitherto unanswered in the medical history. A rational medical man strives hard to contribute his mite in alleviating the pain and suffering of his fellow brethren and to serve the humanity in this mighty task of health and disease.

Before we discuss the different techniques of using magnets in various diseases, it is essential to understand the different modes of application, duration of application, manner of the seating of the patient, proper time of application, necessary precautions to be observed as well as selection of different types of magnets depending upon the type of disease, sex, age and the chronicity of the disease.

Types of Healing Magnets

As discussed in the earlier chapters, small bar magnets or cylindrical magnets or flat ceramic magnets which generally have low gauss power, are not suitable for the purpose of treatment, though Dr Samuel Hahnemann found that a bar magnet was highly useful in permanently curing a number of human diseases. Such small magnets were useful for the human beings who lived in the 18th century when the surrounding atmosphere was not so rampantly polluted as it is today, the anti-biotics did not leave their harsh imprint on the human body, the suppressive treatment was not so grossly sophisticated and the man had not dipped so low in moral values. Hence, today as the modern medicine needs stronger and stronger medicines to combat disease, we need to have stronger magnets for use in disease. After considerable research into the type, shape and strength of magnets that would be suitable for healing purposes, the following three types of magnets have

emerged out to be the best possible available for the present (*see* Fig. 16).

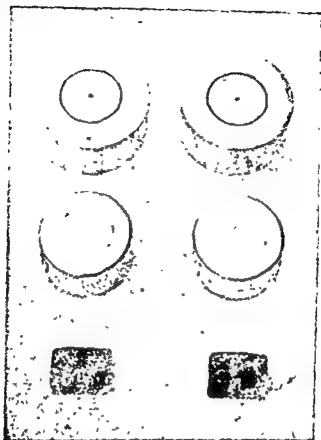


Fig. 16 Three Types of Healing Magnets

(*a*) Strong healing magnets with a power of about 2000 gauss are suitable for all adults for general application to palms of hands and soles of feet as will be discussed later. These types of magnets are generally suitable for diseases like paralysis, polio, spondylosis, sciatica, lumbago, gout, dysmenorrhoea, and eczema. These magnets can also be used locally for any of the above conditions.

(*b*) Medium-power magnets of about 500 gauss can be used for children as well as for general application to the palms of hands and soles of feet in case of children and for diseases like

earache, toothache, etc. These can also be used by adults in certain affections as will be discussed later.

(c) Curved low-power ceramic magnets of about 200 gauss are suitable for application to the delicate organs like brain and for the organs like eyes, nose, tonsils where curvature of the magnets is necessary. These types of magnets can be used in case of infants as well as diseases like insomnia, dwarfness, tonsillitis, etc.

While the high-power and medium-power magnets are generally encased in steel and are unbreakable, the ceramic type of magnets are liable to break if allowed to fall on the hard ground. Care should, therefore, be taken to handle them properly. These magnets should be kept joined together by a metal bar called 'keeper' so that their magnetic power is not diminished. If used properly, these magnets retain their magnetism for a number of years and therefore in a limited sense can be called 'eternal'. Even if these magnets loose some magnetism by virtue of their use in a number of patients, these can be easily re-magnetised to the original value and strength.

For the preparation of the healing water, generally the high-power magnets are used as they can impart magnetism to water and bring about desirable changes into it more efficiently than the other two types. These magnets also help in preparation of large quantities of healing water as they can easily accommodate big jars and jugs over them.

While the above three types of magnets are most suited for healing purposes the use of the other similar magnets like cylindrical and flat magnets is not a taboo in case of emergency when other types of magnets are not available. However, these types of small magnets would need prolonged exposure to the affected part and in certain cases it will be advantageous to tie them up over the part with a piece of cloth so that they remain in position and bring about desired results.

Method of Application

The magnets are mainly used by two methods, namely, (*i*) by general application. and (*ii*) by local application. These are described in detail below :

(*a*) *General Application.* This method of application involves the use of a pair of magnets, one with predominance of north pole and the other with predominance of south pole. Based on the electrical affinity of the body the north pole is to be applied to the right side, front side and upper side of the body while the south pole to the left side, back side and lower side of the body. This strict compartmentalisation in application of magnets is applicable only to the general application, while in case of local application more consideration may be given to other aspects like infection, pain, swelling, etc. For better results, a pair of magnets is applied to the palms of hands in the event of any disease in the upper portion of the body, that is, above navel and the magnets should be applied to the soles of feet in case of disease in the lower portion of the body, that is, below navel (*see* Fig. 17 and 18). This method of application does not take into consideration whether the disease is infectious or purely functional or superficial or deep. This method is also suitable where the disease is bilateral and is of the chronic nature, or affects either the entire body or the greater portion of the body, where the precise localisation would be difficult.

(*b*) *Local Application* This method of application involves the use of magnets in the localised area say a knee or a foot, painful vertebra, eye, nose, etc. Whether one or two or even three magnets are to be applied depends upon the acuteness and the type of disease. For instance, in case of acute pain in knees as well as in the neck, two magnets can be applied to both the knees and the third can be applied to the painful vertebra in the cervical region. This method is also better suited in case of localised infection as in case of wounds,

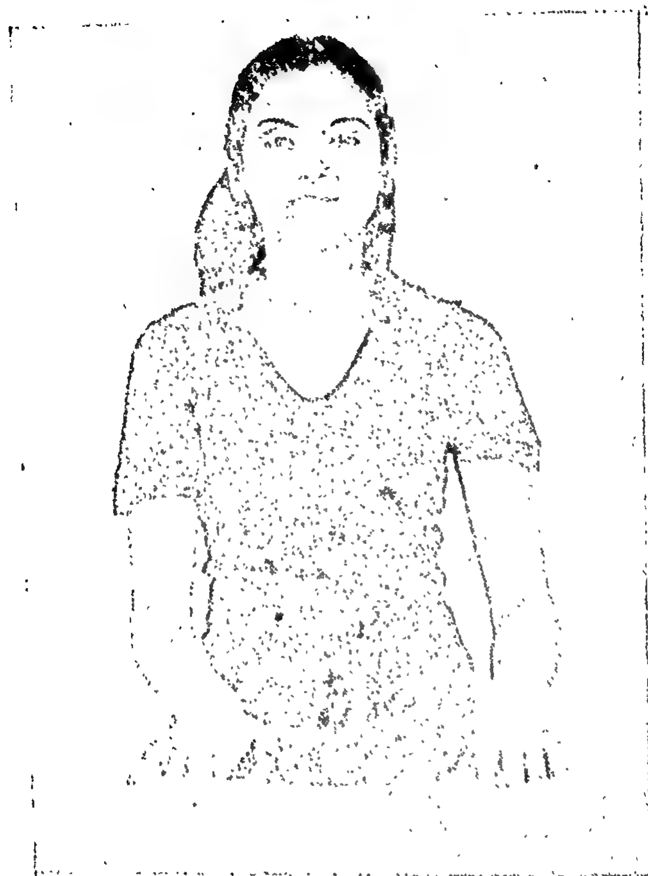


Fig. 17 General Method of Application to Hands

pyorrhoea, etc, where only the use of north pole can be made and use of south pole may be harmful. In certain cases, like acute pain in the thumb, the local application by sandwiching the thumb in between both the magnets, sometimes gives incredibly fast results. In certain cases like nasal polypus (small fleshy growths inside the nose) and tonsillitis, it would appear illogical to resort to the general treatment, as the spot application will be not only needed but would also be far more useful. In this method of treatment a strict adherence to

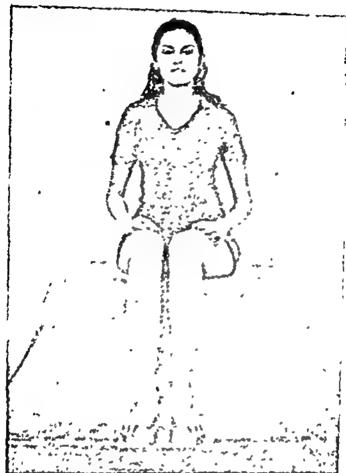


Fig 18 General Method of Applicat.on to Feet

the rule of right and left or front and back or upper or lower loses significance. In other words, the emphasis is more on the need and feasibility than on the rules

Method of Seating of the Patient

Before the application of magnets, a patient should be seated comfortably on a chair or a sofa. It is not advisable to take this treatment sitting on the ground as it is necessary to provide an insulator in between the patient and the earth. While giving the general application, there is no hard and fast rule that a patient should face a particular direction, but

in the case of local application due attention should be paid to the direction. In case south pole is to be applied over the affected part, the patient should be seated in such a *manner* that he faces north direction and vice-versa. This is also applicable if the magnets are to be applied to the front side of the body. In case the magnet is to be applied to the back of the neck or to the back in a sitting posture, the patient should face north if only the north pole is to be applied and south if only south pole is to be applied. In case two magnets are to be applied simultaneously, he should either face south or north. Similarly, while applying magnets to the sides of the body the patient should be so seated that south pole faces south and the north pole faces north. After the patient is properly seated in a particular direction, the *magnets* should be *kept* on the table for application to hands while these should be kept on a wooden plank for application to feet for general application. While applying magnets to hands, the feet of the patient should rest on a wooden plank and *not on* the ground and the patient should place the palms of his hands over the magnets—right palm on the north pole and left palm on the south pole. Similarly, in case of application to feet, the soles of the feet should be kept over the magnet—right sole over the north and left sole over the south. While applying magnets locally, it is not necessary to *remove* the clothes or to expose the part. *It is necessary* to remove the keeper before application.

In case of local application, the patient should rest his feet on a wooden plank and should *not touch* the ground or the wall, etc. In case of local application with magnets in the supine posture as is sometimes convenient, in case of cervical spondylosis or low-back pain, the patient should sleep on a cot or wooden sofa and apply the magnets in a manner as will be discussed later. In case help is sought from another patient to hold the magnets in position for local application to certain parts (*as* the magnets are quite heavy), the assistant should also stand on some insulated material like wooden plank

or plastic, and should not touch the ground. Similarly, in case of application of magnets to infants, the mother or the nurse should hold the child in the lap resting her feet over some insulated material before applying the magnets to the child. It is important to religiously follow the above instructions in seating of the patients for treatment in order to obtain desired results.

Duration of Application

The duration of application of magnets depends upon the type of disease, length of disease, organs to which the magnets are to be applied, individual susceptibility of the patient, age of the patient and the strength of the magnet. Generally, it is left to the best judgement of the magnetotherapist to decide on the duration of application based on the above factors. However, after a great deal of research and observations on effects of magnets on various individuals and in different diseases, the duration of magnets has been rationalised. As is the case with any medicine, a proper dosage is necessary in case of application of magnets as well, so that unnecessary prolonged period of exposure can be avoided. It has been considered adequate to apply the magnets to the affected parts or in the general manner for a period ranging from 10 to 30 minutes depending upon the factors discussed above. For instance, in case of chronic rheumatoid arthritis in an adult, initially the duration of application may be restricted to 10 minutes for about a week and then extended gradually to about 30 minutes. Such extended periods of exposure are also allowed in a number of other diseases as will be discussed under method of application in individual diseases. This duration is applicable only to the types of magnets discussed above and not to extra-strong magnets of 3000 gauss power or above, in which case the exposure should be proportionately reduced. When the magnets are to be applied to delicate regions like brain, first of all it should be understood that no strong magnets

should be applied. Secondly, the duration of 10 minutes should be strictly adhered to as in case of insomnia or improving the memory or increasing the height.

In case of certain susceptible individuals who show the results quickly or feel any type of sensations in their body, the duration of application can be reduced to even 5 minutes while in certain extremely sensitive patients, the duration may be reduced to only 2 or 3 minutes or even less. Every intelligent physician should exercise caution and proper judgement in this important aspect of magnetotherapy or else certain over-sensitive patients may sometimes be terribly aggravated as has been discussed in the chapter on Susceptibility. In any case, a common-sense approach to the issue of duration is supposedly the best. In addition, it is essential for every magnetotherapist to keep handy a zinc plate or a bottle of Homoeopathic medicine *Zincum Metallicum 6* ready for use in case of violent reactions in the sensitive individuals, as the plate or the medicine are approved antidotes for over-magnetism. It is absolutely necessary that the first application of magnet should be in the presence of an experienced magnetotherapist who should watch the patient and enquire whether he feels any sensations or vertigo or nausea or sinking, etc, before deciding on the exact duration of the treatment. In case of any strong reaction in an over-sensitive individual, the contact with the magnet should be discontinued immediately and the patient should be carefully advised on the duration and mode of application in subsequent sittings especially if he wishes to undertake the treatment at his home. Even for a person of robust health, the first sitting should invariably be in the presence of a magnetotherapist.

Normally, one sitting with magnets in 24 hours should be adequate for any disease. However, it may be necessary to apply magnets twice during 24 hours in a number of chronic diseases and when a number of organs are affected. For

instance, in case of pain in knees as well as the cervical spondylosis, the magnets can be applied to the knees in the morning for a duration of 10 minutes and to the neck and the terminal point of pain or to certain acupuncture points in the evening for 10 minutes. However, in such cases, the duration of exposure should not exceed 10 minutes each time. Besides this, if it is necessary to apply small magnets for earache, toothache, pain in single parts like thumb, finger, big toe, etc, during 24 hours when two major applications have already been taken, there is no harm in resorting to the emergency application.

Time of Application

There is no hard and fast rule for time of application of magnets. However, it is advisable to apply the magnets after morning ebullitions and after bath in the morning or during evening depending upon the convenience of the patient. *Also, the precautions in the use of magnets as will be discussed later, should be strictly followed in deciding upon the time of application of magnets.* Experience shows that certain conditions like cervical spondylosis, arthritis of knees and lumbago which aggravate on exertion are worse during evening, that is, after the day's work. Hence, it is of added advantage in such diseases to apply the magnets in the evening when greater relief can be felt. On the other hand, in the case of diseases of bowels like diarrhoea, constipation and collitis it is advisable to apply the magnets in the morning. There are certain other considerations as well which determine the time of application. These are based on Ayurveda and Acupuncture. According to the Ayurvedic philosophy, the diseases due to predominance of *kapha* (phlegm) like cough, cold, bronchitis and pyorrhoea are aggravated in the early part of the day; the diseases of *pitta* (bile) are aggravated in the afternoon and the diseases of *vata* (wind) like flatulence, acidity and incarcerated flatus are aggravated in the evening. This is also in consonance with the fact that the earlier part

of the day is the coldest which excites phlegm; heat and biliousness can be excited at mid-day as bile is released by the gall bladder during intake of food; and the latter part of the day that is evening is windy. If we apply this philosophy, to the diseases of chest and phlegm, the magnets should be applied in the morning; if the diseases are attended with the disturbance of bile, like liver trouble, etc, the magnets should be applied in the afternoon; and in case of diseases of the bowels attended with gas trouble, the magnets should be applied in the evening. Similarly, Acupuncture has also defined the time of maximum flow of vital energy in different organs like lungs, kidney and gall bladder. An intelligent magnetotherapist should, therefore, give due consideration to all these factors in suggesting to the patient the appropriate time of application of magnets. The office-goers or the businessmen who return late in the evening can, however, apply the magnets at night with due consideration to the precautions in the use of magnets.

Precautions

The knowledge of effects of magnets on the cells and the experience on the use of magnets in various ailments suggests that there are no side effects or adverse effects of magnets during normal use and with due regard to the various factors discussed above. However, certain precautions are necessary in their use due to their intrinsic properties of improving the circulation, generating heat, etc. These precautions should be strictly followed in order to get maximum benefits from magnets and to avoid any undesirable effects. These precautions are discussed below :

(*a*) Cold drinks or cold foods like ice-creams should not be partaken during or immediately after application of magnets as these may unnecessarily dampen the effect of magnets on the tissues. Similarly, cold bath should be avoided at least for about an hour after the use of magnets.

(*b*) Magnets should not be applied immediately after regular meals but after about 2 hours, as these sometimes induce vomiting in certain sensitive individuals. Also, the efficiency of the magnetic application may get reduced if the magnets are applied immediately after meals as the circulation is mainly geared towards the alimentary canal.

(*c*) Strong magnets should not be applied to the regions of brain, heart and eyes as the organs produce the highest fluctuating magnetic fields and may be adversely affected. Also, the duration of application of ceramic magnets to the head should not exceed 10 minutes at one sitting.

(*d*) Strong magnets should also not be applied to the pregnant women as sometimes these may induce abortion. Certain confirmed reports about accidental abortion by use of two similar poles have been received. Hence, two magnets with north or with south poles should never be applied to the pregnant women However, ceramic or medium-power magnets can be applied in such cases preferably away from the womb.

(*e*) The dose of magnetised water, as has been recommended in the chapter on 'Healing Water' should normally not be exceeded as sometimes it may over-activate an organism causing discomfort. It should be remembered that magnetised water possesses altered properties than that of the normal water and hence should be used in medicinal doses and not like plain water. This especially applies to the use of magnetised water in children.

(*f*) The strong healing magnets with a power of about 2000 gauss that can lift about 10 kg iron weight have very strong magnetic force. These, if brought very near each other may clamp together forcefully. Such carelessness may trap the fingers between the two magnets and lead to severe crushing. Hence, the magnets should be handled carefully.

(*g*) Some of the sophisticated electrical or electronic equipment as well as time pieces or watches which are not protected against magnetism can be severely damaged if brought near strong magnets. Hence, magnets should be kept away from such equipment.

(*h*) When not in use, the magnets should be kept with a suitable keeper and also not be allowed to fall on the ground as such mishandling reduces the power of the magnets, unnecessarily adding to the need for recharging. Similarly, the children should not be allowed to play with the magnets.

Acupuncture Points

Acupuncture is an allied science and art of healing which is based on the principle of flow of the vital energy through various organs of the body with periodic polarity alteration. Any disturbance in this vital force can lead to a state of disease which can be restored to normalcy by the use of fine needles at particular points (*Acus* means needle, *puncture* means penetrate).

An acupuncture point lies on the body surface and has to be punctured, heated or pressed to relieve or cure the disease symptoms. The points differ in properties and those with similar properties have been connected together with an imaginary string or channel called a meridian like a necklace of pearls of the same type. The human body has thus been divided into 14 meridians—out of which 12 are paired meridians and two are single. The paired meridians are named after the internal organs like lung, small intestine, gall bladder, kidney, etc, to which they are connected. The two unpaired meridians are called Conceptional Vessel (CV) and Governing Vessel (GV). In addition, there is a paired meridian, namely, Triple Warmer which is based on the philosophy of three burning cavities in the body and is not connected to any particular organ. There are also certain extra points in the body

which cannot be formed into a definite meridian. The vital energy also called 'chi' in Chinese flows through these vital channels in an orderly manner.

Each meridian is an electro-magnetic field and each acupuncture point a magnetic unit. The vital energy passes through each meridian, say lung meridian, in a circuit, starts from the concerned organ, flows through the rest of the organs connected by the meridian and goes back to the lung. All acupuncture points on a particular meridian are given a specific number. For instance, the points on the gall bladder (GB) meridian are numbered as GB-1, GB-2 and so on. The abbreviations for different meridians are as follows :

Meridian	*Abbreviation*
Stomach	St
Lung	Lu
Large Intestine	LI
Spleen	Sp
Heart	H
Small Intestine	SI
Urinary Bladder	UB
Kidney	K
Pericardium	P
Gall Bladder	GB
Triple Warmer	TW
Liver	Lv
Conceptional Vessel	CV
Governing Vessel	GV

An acupuncturist decides on the number and types of acupuncture points to be needled in any disease and prepares a needling formula for each disease. For example, in case of asthma, the needling formula is as follows :

GV—12	St—4
LI—4	SI—4
Sp—8	Lu—1

Acupuncture Points in Treatment with Magnets

As has been discussed in the foregoing paragraphs, the meridians are electro-magnetic fields and each acupuncture point is an electro-magnetic unit. Extending this postulation further it has been found expedient to apply magnets on one or two 'key' acupuncture points in different diseases. The mode of application is the same as normally used in other diseases, that is, if only one point is to be 'magnetised', then only the south pole should be used. However, in case two points are used, then the general rules of the pole sides, duration, time, etc, as discussed earlier should be applied. Hence, while suggesting the method of application in different diseases according to the general or local application as the case may be, the use of specific acupuncture points have also been suggested. Other necessary instructions, wherever necessary have also been included for the sake of clarity. The approximate location of various points has been shown in Figs. 19, 20 and 21. One advantage with the use of magnets on the acupuncture points is that a physician has not to struggle hard to precisely locate an acupuncture point, as a magnet covers a bigger area and can easily accommodate the point.

Treatment with Magnets

Having discussed the basic norms of application of magnets as well as the acupuncture points, let us now proceed with the treatment of different diseases. Bear in the mind that you have the most potent and benevolent therapeutic tool in your hand which coupled with your knowledge, wisdom and common sense will bring back smile to the lips which have long forgotten it. Let us not forget that patience, kindness

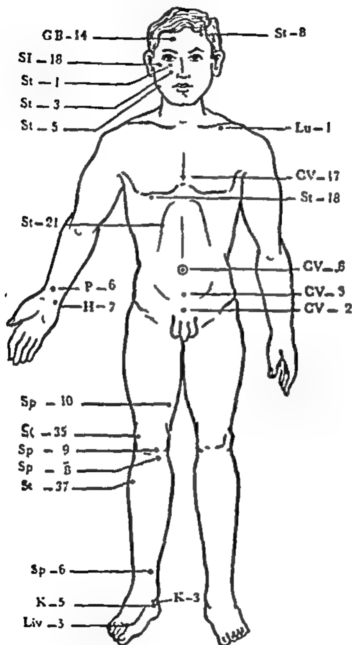


FIG. 19
RELEVANT ACUPUNCTURE POINTS ON FRONT SIDE OF BODY

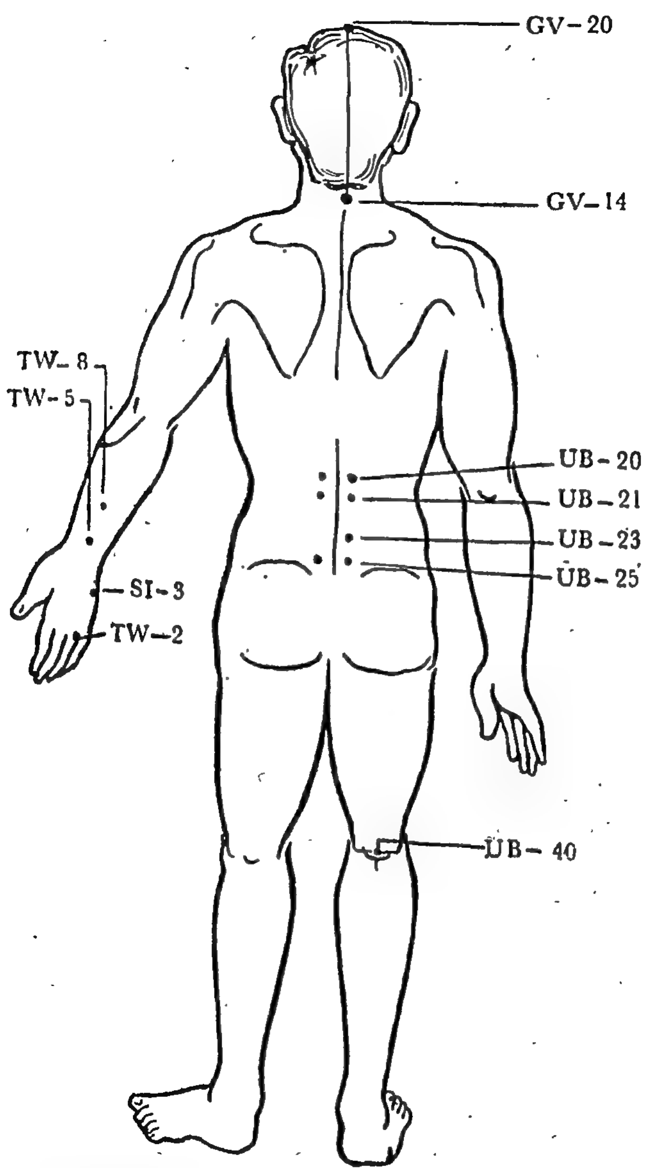


FIG. 20
RELEVANT ACUPUNCTURE POINTS ON BACK SIDE OF BODY

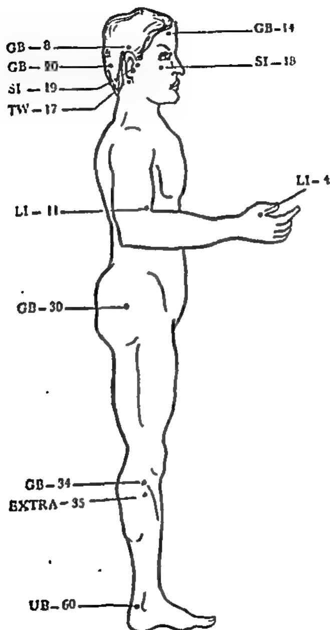


FIG. 21
RELEVANT ACUPUNCTURE POINTS ON LATERAL SIDE OF BODY

and perseverance are the essential components of successful cures. On the other hand, the negligence and haste are the parents of failure. Almost all the common diseases which are amenable to the treatment by magnets and which you may be confronted with in the daily practice are included here. This does not imply that those diseases excluded from the list are not curable by magnets. These can be treated with a little more understanding and care.

ABSCESSES AND BOILS

An abscess is a localised collection of pus by suppuration in tissue, organ or a confined space. It is more than a few millimetres in diameter and is too large to be called a pustule or a small blister. An abscess is generally caused due to infection which destroys large number of cells. Generally an abscess requires surgical drainage to permit healing and eradication of infection. There are different types of abscesses, namely, alveolar abscess which means an inflammation and pus formation of tissue about the apex at the root of a tooth; stitch abscess which develops about a stitch or suture and so on.

A boil (also called furuncle) is also caused due to infection of the deeper parts of the hair follicle (a follicle is a flask-like depression which accommodates the root of hair) by bacteria namely *Staphylococcus pyogenes aureus*. An abscess generally begins as a small red hard nodule in the skin at the hair follicle ; increases in size in a few days and is painful. A boil then forms a soft point in the centre which subsequently bursts up and lets out the pus. Thus, healing of the boil takes place after the pus is drained of giving way to granulation of the tissue and clearing up of the boil. In case of any neglect, one boil may be followed by a crop of boils which continue for months. In certain cases a boil may be blind, that is, without any soft point in the centre in which case healing process is delayed and the boil may continue for quite a long time.

In case the abscesses or boils are situated in the lower portion of the body, the magnets should be applied to the soles of the feet—north pole to the right foot and south pole to the *left foot.* However, in case these are located in the upper portion of the body, the magnets should be applied to *the palms of hands. As these boils or abscesses* are due to infection, north-pole oil may be applied over them. The *healing water should also be taken internally to clear all the* pus which infiltrates in the blood and circulates in the blood stream. *In the beginning of a boil when it is hard, red* and painful, north pole of the ceramic magnet may be kept over it which will have good soothing effect

AMENORRHOEA

Amenorrhoea means scanty menses or absence of menses *in women. This may be due to many reasons like pregnancy,* anemia, or utterly broken state of health and tuberculosis. This may also be caused due to exposure to cold, excessive drenching in rains, sudden mental shock or grief or a long exhausting journey. Some of the associated symptoms of this disease may be giddiness, pain in the lower abdomen, desire to be alone, nose-bleed, etc. In some women bleeding from nose or other organs may be observed instead of the normal menses. This is known as vicarious menses.

In case amenorrhoea is not due to pregnancy, north pole of a magnet should be applied to the ovarian region—about 5-7 cms below navel on the front side and the south pole on the opposite side on the back where the acupuncture point UB-23 lies. This may be carried out in the morning, followed by application of magnets to soles of feet in the evening. In case these two *methods do not yield desired results,* 2 magnets of the same pole preferably south pole should be applied to both the feet. The experience shows that in certain cases this quickly brings on menses.

ANEMIA

Anemia is a condition due to deficiency of either haemoglobin or red blood cells in circulating blood resulting in fall in oxygen-carrying capacity of the blood. There are many types of anemia like primary anemia which is caused due to the disease of the blood-forming organs, pernicious anemia which is generally caused in adult life due to lack of secretion by the stomach of a factor essential to proper blood formation, etc. However, the main cause of anemia generally found in women, children and poor people is the deficiency of iron, protein and vitamins in diet which is collectively known as nutritional anemia. There are two aspects of this phenomenon, namely, the deficiency or poor intake of foods rich in iron and vitamins, or due to improper assimilation of iron in the body. Chief symptoms of nutritional anemia are general pallor, weakness, feeling of tiredness on slight exertion, feeling of chilliness, cold extremities, itching of limbs, sometimes shortness of breath when the disease is in advanced stage and tendency to fainting, etc.

With a view to improving the general assimilation of iron in the body, it is absolutely necessary to take healing water thrice daily. The magnets should also be applied to palms of hands daily in the morning followed in the evening by application of south pole at the acupuncture point Sp-6 about 7 to 8 cms above the tip of inner malleolus (the rounded prominence on the inner side of ankle joint). In addition, diets like green leafy vegetables, meats, eggs, dates, nuts, etc, which are rich in iron and vitamins should be taken. Some of the foods like Cow peas (*Lobia*), Amaranth leaves (*chaulii*), Coriander leaves (*Dhania*) and *Amchur* are very rich sources of iron and can supply good quantities of the element in the food.

ARTHRITIS

Arthritis means inflammation of the joints and is marked by pain, heat, redness and swelling in its acute state. The

inflammation can then lead to difficulty in moving or bending the joint properly. There are different types of arthritis, namely, acute rheumatic arthritis in which many joints of the body are affected specially due to rheumatic fever; and rheumatoid arthritis in which severe pain and swelling of the joints occurs from infection by certain bacteria. This type of arthritis when occurs in children is called juvenile rheumatoid arthritis. The rheumatoid arthritis mainly affects the lining of the joints (synovium) which is progressively damaged leading to deformation and restricted movement of the joints (*see* Fig. 22). Rheumatic and rheumatoid arthritis stand

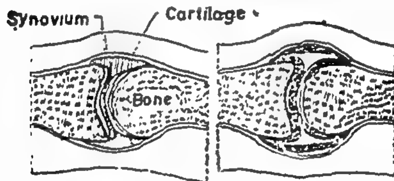


Fig. 22 Changes in Joints due to Rheumatoid Arthritis

good chances of recovery and cure in the beginning of the trouble but when the lining of the joints is completely damaged there are bleak chances of cure. Hence curative measures should be taken immediately after the first symptoms of these diseases are noticed. Normally a patient has a tendency to avoid the use of the affected joint owing to pain which leads to more and more restricted movements of the organs and subsequently to terrible stiffening and deformity. In persons passed middle age especially in women at the time of menopause, there is greater proneness to this disease which in majority of cases affects the knees.

For management of this disease which is incurable in the later stage, the following course may be adopted:

(*a*) In case the joints of the lower portion of the body are affected, the strong healing magnets should be applied to the soles of feet and if the joints of the upper half of the body are affected then the magnets should be applied to the palms of hands. This treatment can be carried out in the morning followed in the evening by application of magnets to the acupuncture points GB-34 and St-35 (*see* Fig. 23). For this



Fig. 23 Application of Magnets on Acupuncture Point St-35

purpose, the north pole should be applied to GB-34 of the right leg (on the outer side of the knee) and the south pole on St-35 of the left leg (outer depression just below the knee cap). Additional local application *may also* be carried out in case of acute pain in single joint like knee joint, wrist joint, shoulder joint, etc.

(*b*) Sun-bathing of the affected organs is absolutely necessary. For this the use of red oil (*see Chapter 7) and* red cellophane paper should be made.

(*c*) With a view to washing off the deposits of different salts in the joints, the healing water should be taken regularly thrice daily.

(*d*) The diet should be so regulated as to include more of green vegetables, fruits, etc, avoiding too much starchy or greasy food. The potatoes if taken should be taken with the jackets on, that is, unpeeled.

ASTHMA

Asthma is an allergic disease and the term applies to conditions of difficult breathing. In case of acute attacks, the patient gasps for breath as he cannot inhale sufficient air. Usually, the inspiration is difficult and expiration is prolonged The breathing is accompanied by fine whistling sounds commonly known as wheezing. The attack comes suddenly usually at night accompanied by the above symptoms. In case of prolonged acute attack the patient's face turns blue or cyanotic due to lack of oxygen. Asthma is generally caused due to inhaling or ingestion of certain substances to which an individual may be sensitive and reacts violently. The substances like dust, *pollens* of certain plants, eggs, dry scales of [illegible], cotton and many *other* similar substances which are known as allergins can induce the symptoms of asthma. After [illegible] of these allergins, the immunity system of the body produces what are known as antibodies to fight the invaders on.

However, in the combat, certain chemicals like histamine are produced which result in the spasms of the bronchi and narrowing of the air-tubes. In the beginning of an attack, the cough is dry and tight with no sputum though the patient tries hard to bring up the mucous. After sometime, depending upon the nature and length of the disease, the expectoration follows thus relieving the symptoms of agony and soon the patient recovers.

A person suffering from asthma should avoid the intake of allergins, if one knows of the sensitivity to a particular type of allergin. The following course of treatment should be adopted :

(*a*) The magnets are an invaluable tool in the treatment of this disease—in the acute and in the chronic stages. The patient should apply the magnets to the palms of the hands daily in the morning. In the evening, north pole of the ceramic magnets should be applied to the acupuncture point Liv-1 (below the right clavicle or shoulder bone) and the south pole of the ceramic magnet to the acupuncture point St-18 (about 3-4 cm below the right nipple).

(*b*) In case of acute attack of asthma, the patient should be given 2-3 tablespoons of glucose in water, if the patient is not diabetic. This is considered useful as a considerable reduction in the blood sugar generally occurs and aggravates the condition.

(*c*) It has been found that the asthmatic patient gets more severe attacks if he or she sleeps immediately after a heavy meal. Hence, it is necessary that these patient should take their supper about 3 hours before retiring to bed.

BACKACHE

A persistent dull aching pain in the low-back or the lumbar region may be caused due to many reasons. This may be due

to wrong posture in sitting especially in a chair or by sudden heavy manual work or sudden jerk to the back while lifting heavy weight. The pain is generally relieved by rest or by sitting upright and is aggravated by bending down or by slouching in a chair. It may also be caused due to lumbar spondylosis (for details *see* Spondylosis). In the beginning of the pain the X-ray reports generally are normal though later, the bony changes may be observed in it. In the advanced cases, there is considerable stiffness and restricted movement of the spine which then causes pain due to a sudden jerk to the body. An associated condition which also leads to low-back pain is called lumbago simply meaning rheumatic pain in the lumbar region. Other causes of the backache may be rheumatoid arthritis, certain diseases of the bone which weaken the spine and tumours under the spine or the slipped disc (for details *see* under Slipped disc). In advanced stages of the pain the gait of the patient is affected so that the patient walks slowly and cautiously in a stiffened manner.

The following mode of treatment for backache or lumbago may be adopted :

(*a*) During the acute attack, the patient should take complete rest and should sleep on a hard bed so that the spine is perfectly straight. It is also important to adopt proper posture while sitting or standing.

(*b*) In case the backache covers the wider area length-wise, north pole of the magnet should be applied at the upper painful point and the south pole at the lower-most painfu point. However, in case the backache is horizontal or widt - wise, the north pole should be placed over the painful point on the right side and the south pole to the painful point on the left side. This should be carried out in the morning followed by the application of north pole to the acupuncture point UB-25 (at the point of 12th lumbar vertebra) and the

south pole to UB-60 (behind the external malleolus, the rounded prominence of the ankle joint). The healing water should also be taken regularly.

(c) Sun-bathing of the low-back alongwith the use of red oil and red cellophane paper should be carried out.

(*d*) Spinal exercises and massage are also useful in mitigating pain and stiffness of the back. The exercise should be carried out by lying down flat on the chest with hands lying on the sides and then raising the shoulder and the chest above the floor by the help of back muscles only. This can also be done by performing what is known as *Nauka Asana* (*Nauka* means a boat). This exercise will strengthen the back muscles. Similarly, the massage should be applied to the back muscles by using south-pole oil which relieves the acute spasm and relaxes the muscles.

BLOOD PRESSURE

The word blood pressure usually applies to the high blood pressure or hypertension. However, there may be abnormally high blood pressure or an abnormally low blood pressure, the latter is called hypotension. There are many reasons for these abnormal conditions. The high blood pressure or hypertension, as the word suggests is due to high tension or constant mental strain as acquired by top management executives, or being in the constant state of fear, sedentary living, indigestion, overwork, etc. High blood pressure can also be caused due to the hardening of arteries or arterioles, due to deposit of cholesterol (found in abundance in animal fats like butter, ghee, eggs, etc). The hardening causes diminished elasticity of the blood vessels. This requires propelling of the blood into arteries with greater force. Also in the old age the arteries lose their natural elasticity and thus lead to the blood pressure. The low blood pressure is encountered in case of

excessive loss of blood or weakness or depression. The normal blood pressure in adult life is as follows :

Systolic pressure	
(during contraction of the heart)	110—135
Diastolic pressure	
(during relaxation of the heart)	75—80

The average difference between systolic pressure and diastolic pressure is 50. As the blood pressure varies with age, the same can be computed with the following formula :

Age of an individual+90; *thus the normal blood* pressure of a man of 60 will be 60+90=150.

The common symptoms of high blood pressure are severe headache, blurred vision, giddiness, disturbed sleep, loss of appetite and pulsation *in the temples, while the symptoms of* the low blood pressure are lethargy, dullness, drowsiness, depression and constant desire to take rest after slight exertion.

The blood pressure is one of the areas most amenable to the treatment with magnets. The healing water forms a very important aid in dissolving the cholesterol and other deposits so that the arteries resume normal elasticity. The water also cures other associated conditions like indigestion and constipation. Hence, regular use of the *healing water thrice daily* should be made. In addition, the following method of appli*cation of magnets should be employed :*

(a) In case of high blood pressure, the magnets should be applied on the palms of hands in the morning, followed by application of south pole of the magnet on the acupuncture point Liv-3 (at the root of the big toe and the second toe of the right foot). In case of low blood pressure, the south pole of the magnet should be applied on the acupuncture point Sp-6 (about 7-8 cm above the inner malleolus). *Besid*—

this, wearing constantly of the magnetic band (like a metallic watch strip having tiny magnets embeded in small steel blocks) on the right wrist in case of high blood pressure and on left wrist in case of low blood pressure is highly useful. This can also be achieved sometimes by holding the horse shoe or a ceramic magnet in the right hand in case of high blood pressure and in the left hand in case of low blood pressure.

(*b*) Change in the mental attitude towards life and day-to-day events is an important aspect in normalising the high blood pressure. A person suffering from high blood pressure should try to relax and take things easy. The best way of relaxation is through the *Shava Asana* (corpse posture) which can be performed by lying on the back with arms on the sides and leaving the body loose at the same time keeping the head on one side with eyes closed and thinking of perfect tranquility. In the beginning, this should be performed for about 5 minutes and then gradually extended upto 15 minutes daily preferably in the morning.

(*c*) Diet also plays an important role in the treatment of high blood pressure. Some of the fats like ghee, butter, eggs, and excess of sugar and common salt should be avoided. In case of low blood pressure, good nutritious food should be taken to increase the vitality.

CATARACT

The ocular system includes the eye, the extra ocular muscles which control eye position in the eye socket, the optic and other nerves which connect the eyes to the brain and the relevant areas of the brain which control the visual mechanism. The eye is like a camera with different parts like the shutter, the lense and the impression-taking film. The outer refracting surface is known as cornea and admits light ; the iris is the circular dark structure that accommodates pupil which can

relax or dilate in response to various stimuli like light, passion, etc. There is a thin membrane known as conjunctiva which covers the cornea and *the inner side of the lid*. Then there is a crystalline lense which can give the eye a variable focal length allowing accommodation to objects at varying distances from the eye. The image is formed on the retina at the back of the eye.

Cataract is the disorder of the lense of the eye, in which the latter turns cloudy or opaque thus disallowing sufficient light for proper vision. The complete opacity of the lense can cause blindness. The main causes of cataract are severe eye irritation, physical injury, diabetes, certain skin diseases or even some drugs. *It may also be congenital, that is,* transmitted through birth. The initial symptom is painless, progressive impairment of vision, leading to grey or white appearance of the pupil of the eye. This is mainly a surgical condition but if measures are taken in the beginning of the trouble and the causative factors avoided, the further progress of the disease can be checked

In the initial stages, the north pole of the ceramic magnet should be applied to the affected eyes in the morning. This should be followed in the evening by the application of the north pole of the magnet on the acupuncture point GB-1. This may gradually remove the clouding and check further progress. The affected eye should also be washed with the healing water prepared on the north pole of the strong magnet. The eye drops prepared by placing a bottle of rose-water on the north pole for 24 hours, may be used (2-3 drops) twice daily.

COLITIS

The inflammation of the wall of colon (the portion of large intestine from caecum to the rectum) is called colitis. There are different types of colitis. The amoebic colitis or amoebic

dysentery is caused by a parasite *Entamoeba histolytica*. The mucous colitis is a chronic disorder of the colon in which there is passage of mucus, constipation or diarrhoea and spasm of the walls of colon. The most common colitis—ulcerative colitis—shows wide-spread ulceration of the walls of colon accompanied by diarrhoea with blood and pus, fever and weight loss. This disease is chronic with acute attacks occurring at intervals.

The rational treatment of the disease which has defied almost all systems of medicine, can be carried out with magnets and the healing water. In the morning two strong magnets should be applied to the soles of feet followed by the application of the magnets to the acupuncture points St-21 and St-37—north pole to the St-21 on the right side and south pole to the St-37 on the left side. The healing water should be taken thrice daily.

The diet plays an important role in the cure and further checking the acute exacerbations of the disease. The patient should avoid all spiced and highly-seasoned foods like pickles and should partake simple, nutritious food. The pulp of ripe *Bael* fruit is especially advantageous in this disease and should be used regularly. In case of blood and mucus in the stools, the use of *isafgol* is also highly useful. Proper rest and a healthy attitude to life are essential for an early recovery from the disease.

CONJUNCTIVITIS

This simply means the inflammation of the conjunctiva of the eye which lines the cornea and the inner sides of the eyelids. It is also known as 'pink-eye', 'Ophthalmia neonatorum' or even 'trachoma'. Pink-eye is generally found in children and the inflammation and redness may appear due to irritation from smoke, dust, intense light, etc. It is highly contagious and starts with the watering of eyes. This is followed by pus

formation, burning, itching, sticking together of the eye-lids, and general puffiness around the eyes. The pink-eye usually is caused due to infection by staphylococci or pneumococci bacteria. The term ophthalmia neonatorum applies to the conjunctivitis in the new-born babies. The trachoma is caused due to poor hygiene and is characterized by large, clear 'granulations' underneath the eye-lids and the patient complains of 'sand' feeling in the eyes.

As the disease is highly infectious and contagious, the use of towels or other articles used by the patients suffering from this disease should be avoided, especially in case of children. The regular washing of the eyes with clean water or by the use of an eye-glass is necessary. The dust and flies which are common source of infection in infants should be checked by screening the doors and windows with wire-mesh. The exposure of eyes to the strong light or solar glare should be avoided. The diet should be nutritious—rich in vitamin A and vitamin C. Green leafy vegetables, salads, fresh fruits especially mango should be taken regularly.

Only the north pole of the ceramic magnet should be applied to the eye. In case both the eyes are affected, two ceramic magnets with north poles should be applied to both the eyes (*see* Fig. 24). This can be done once in the morning followed in the evening by the application of the north pole of the strong steel magnet on the acupuncture point St-1 (about 1 cm below the eye). Washing of eyes should be done with the healing water prepared on the north pole and the use of eye drops made as suggested under *Cataract*.

CONSTIPATION

A condition characterized by abnormally infrequent and difficult evacuation of stools is called constipation. Severe constipation can lead to painful anal fissures, ulcers and piles

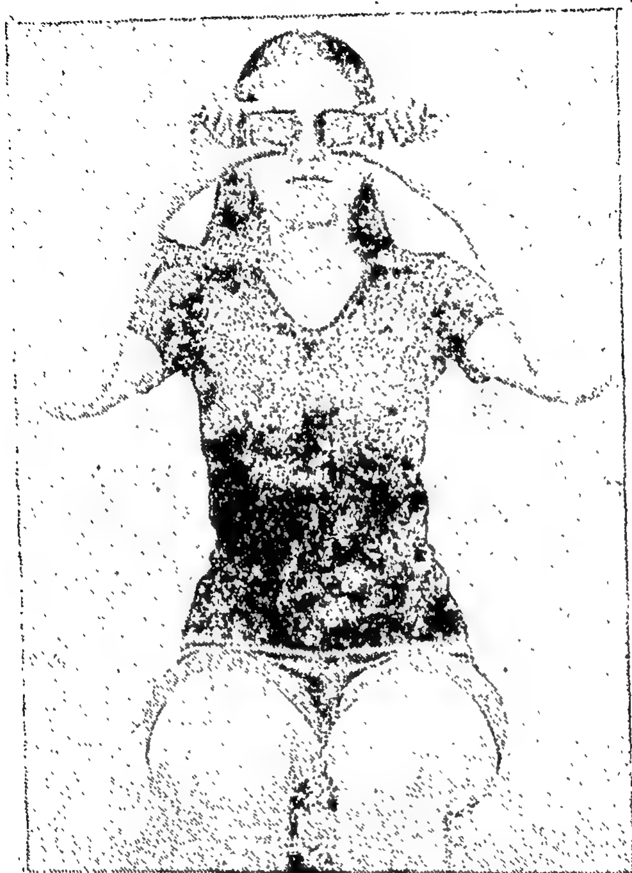


Fig. 24 Application of Magnets in Conjunctivitis

and can also aggravate certain conditions like asthma, diabetes and epilepsy. It can also lead to intestinal intoxication resulting in headache, loss of appetite, fatigue, flatulence and colic.

There are many causes of constipation. Some of them are : deficient motor activity of the intestines; insufficient defecation reflex resulting in deficiency of defecation; laziness and *indifference to heed to the call of nature;* insufficiency of the quantity of stools formed due to inadequate intake of food;

loss of appetite; and lack of dietary fibre (carrots, cucumbers, mango, turnips, etc are rich in dietary fibre). In children, the stools sometimes come out as a collection of small hard balls which is known as spastic constipation. The children may also hold back the stools due to painfully hard movements; fear of pain due to anal fissures, etc, and therefore may suffer from severe constipation.

The prevention of constipation necessitates careful toilet training in children right from their infancy. This helps in development of defecation reflex. The adults should also develop regular habit to go to the toilet and not to ignore it. The diet should include food rich in dietary fibre. Sufficient quantities of water and other fluids should be taken. A glass of cold water taken on rising in the morning often helps in proper bowel movement. Regular exercise in fresh open air also helps in preventing constipation. The use of laxatives and purgatives should be avoided which may, in most cases, lead to auto-intoxication.

The strong magnets should be applied to the soles of the feet once daily preferably in the evening. Healing water should also be taken thrice daily.

DANDRUFF

This is the name given to a common condition of the scalp in which bran-like scales are shed. The scales fall on the shoulders when the hair is brushed. This condition is caused due to infection by a yeast-like organism (Pityrosporon) in association with the bacteria of the *Staphylococcus* group. Dandruff is also known by the names like scruf, pityriasis *capitatis* or *seborrhoea sicca* and is highly infectious as the scales are full of pityrosporon mainly transmitted through the hair-dressers.

The dandruff causes irritation and can also lead to a more serious condition called 'seborrheic' dermatitis on the scalp and



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The dandruff causes irritation and can also lead to a more serious condition called 'seborrheic' dermatitis on the scalp and

other parts, as also to loss of hair. The dandruff generally covers the scalp in indefinite patches.

The treatment demands absolute cleanliness of the scalp by washing with a good shampoo twice a week, and avoiding any type of soap. The hair should also be combed briskly with a brush before retiring to bed. The diet should be light and nutritious. An upset stomach generally aggravates the condition and is sure to lead to falling of hair. To avoid the infection, use of infected towels and hair brushes should be strictly avoided.

The healing water forms the main accessory in the treatment of the dandruff. The water prepared on the north-pole should be used for washing the scalp twice daily. The north-pole oil should be used for hair grooming. The mixed healing water prepared on the south and the north poles should be taken internally for proper bowel movement.

DIABETES

The word diabetes signifies persistent increase of urinary secretion. A common man generally associates this word with diabetes mellitus though there are different types of diabetes. The diabetes mellitus is a condition characterized by high level of sugar in blood and urine, increased urination and increased intake of both fluid and food and in most cases by a relative absolute deficiency of insulin. As we have seen in the earlier chapter, insulin controls sugar level of blood and its deficiency can allow elevation of blood sugar. There is another type of diabetes known as diabetes insipidus in which there is excessive ingestion of water by the patient and frequent urination without elevation of sugar in urine. The recent studies have shown that diabetes mellitus is not merely an insulin-deficiency disease but comprises a number of other changes in the organism that lead to mal-function of pancreas. This disease is also known to be transmitted from one generation to the other in a family. A close association between obesity and diabetes

mellitus has also been established as obese persons ordinarily over-eat and the metabolic changes induced by obesity encourage diabetes mellitus. The diagnosis of the disease is easy as the test for blood sugar can easily confirm the same *though the sugar in the urine may not be as confirmatory.* Hence, blood sugar should invariably be tested for reliable confirmation. A diabetic patient generally takes lot of water or fluid and consequently passes urine very frequently. Also, there is a tendency in such patients to delayed healing of wounds and injuries, etc. The other symptoms are dry skin, red and glossy tongue, spongy gums which bleed easily and itching around the genitals.

For proper management of the disease, it is necessary that the intake of starch or sugar should be considerably reduced although the intake of protein can be increased. Proper exercise especially long walks are absolutely necessary which stimulate production of insulin in the body. The magnets should be applied regularly to the soles of the feet daily in the morning. *In addition, another sitting can be taken by applying* north pole to the acupuncture point K-5 (A little below the inner malleolus) on the right side and the south pole to the acupuncture point UB-20 (situated about 3 to 4 cm lateral to the midline at the level of eleventh thoracic vertebra) It is essential that the patient should take healing water thrice daily for many days.

DIARRHOEA

The condition characterized by an abnormally frequent unformed stools is called diarrhoea Bulk amount of water passes with each stool *There are many causes which induce* diarrhoea. Excessive eating of any one constituent, namely, fat, or protein may cause loose bowels In certain persons *especially children over-eating of green vegetables,* salads and unripe fruits as well as decomposed meat and fish can cause

diarrhoea. Other causes are : regular use of purgative against constipation, deficient secretion of gastric juices, sudden fright in children, intake of food infected with bacteria called *Eschirichia coli*, etc.

The main effect of diarrhoea which can sometimes be serious in children is the loss of body fluid leading to dehydration. During dehydration, the lips and tongue are excessively dry, there is restlessness, hollowness of eyes and inelasticity of the skin so that when the skin of the abdomen is pulled up, it does not go back to its original shape quickly. The chronic diarrhoea may cause considerable loss of weight and emaciation. In certain prolonged cases of diarrhoea especially in children, the growth may be impaired. Proper maintenance of hygienic conditions is necessary to prevent diarrhoea. Food should be kept properly covered and away from flies, rodents, etc. Consumption of putrefied food should be avoided. During diarrhoea, heavy and greasy food should be immediately stopped and mucilaginous foods like arrewroot, rice, etc, should be taken. Plenty of water and other fluid should be taken to avoid dehydration. In case of violent and frequent diarrhoea, pinch of common salt, kitchen soda and glucose should be added to the drinking water, which should be properly boiled and cooled.

The magnet should be applied to soles of feet once in the morning. In the evening, the magnets should be applied to the acupuncture point St-37 (about 15 cm below the knee on the outer side)—north pole on the right side and the south pole on the left side. The healing water should be taken about 25 ml every two hours.

DYSENTERY—(*see* colitis)

DYSMENORRHOEA

Dysmenorrhoea means the painful menses in women. Ordinarily menstruation is attended with some amount of pain and

discomfort. But in certain cases, women feel severe pain usually in the lower abdomen, back and sacral region which may be due to long-standing inflammation or deformity or obstruction or displacement of uterus, ovaries or fallopian tubes. Occasionally, this is associated with gout or rheumatism.

Women who suffer from this disorder should regularly apply magnets to the soles of feet during the intervening period between two menses. At the beginning of the menses, north pole should be applied just below the navel and the south pole just on the opposite side at the back for 15 minutes daily in the morning. In addition, during this period the north pole should be applied to the acupuncture point Sp-6 (about 7-8 cm above the inner malleolus)—north pole on the right side and south pole on the left side (*see* Fig. 25).

DYSPEPSIA

Dyspepsia means difficult digestion or indigestion which may also be accompanied by pain, discomfort in the stomach region, nausea and vomiting. There may also be rise in the temperature due to auto-intoxication. This condition is caused due to either anatomical change in or hindrance to the process of digestion, irregularity in eating, over-eating, chilling of stomach with ice-water and ice-creams, indulgence in indigestible substances like cakes, pastries, etc. In young children, the symptoms of restlessness, crying and vomiting of curds or undigested food may also be present. Other serious causes may be ulceration, wasting of the mucous lining of the stomach or obstruction of the flow of bile or certain constitutional disturbances.

With a view to avoiding this disorder, it is necessary to be regular in eating and to avoid indigestible foods which lead to heaviness in stomach. The healing water is of special advantage in this disorder and should be taken thrice daily. In addition, the magnets should be applied to the palms of hands once daily. In case of acute pain in the stomach, the south pole of a magnet can also be applied locally.

DYSURIA

This means painful urination. There are many causes of this trouble, namely, inflammation of urethra, inflammation of kidneys, infection of the urinary tract or obstruction due to stones, etc. Sometimes, this condition is also caused due to intake of hot and spicy foods, dehydration, etc. In most cases there is accumulation of urine in the urinary bladder with inability to void it with the result that the lower abdomen swells and becomes painful. The retention and accumulation of urine can also lead to absorption of toxins into the system causing general toxic conditions of the body.

The patient suffering from dysuria should take cold baths, light food, including fresh fruits, milk, etc. In summer months when the urine turns thick and high-coloured, increased intake of fluid affords great relief. Some of the fruits like water-melons should be taken in plenty. The seeds of water-melon when chewed show positive effect in increasing urinary secretion resulting in profuse and easy flow.

The healing water forms an invaluable remedy against dysuria which should be taken in 50-ml doses four times daily. The high-power magnets should also be applied to the soles of the feet in the morning followed by application of magnets to the acupuncture point Sp-6 (7-8 cm above the inner malleolus) and CV-2 (about 15 cm straight below navel)—north pole to Sp-6 on the right side and south pole to CV-2.

EARACHE

Earache or Otalgia is a painful affection of ear generally of middle ear and is fairly common in infants and children. The earache may be caused due to many conditions like exposure to cold, boil in the external ear passage, inflammation of the middle ear (otitis media), catarrh, sinusitis, tonsillitis and influenza. The pain may often radiate to the top of the head or to the back of the head. In severe cases, the temperature may also rise.

The treatment should be according to the cause. However, it is necessary to examine for any foreign bodies or insects in the ear which should be carefully extracted out. The children given to recurring attacks of earache should avoid sweets, pastries and greasy foods. The magnets prove to be an invaluable tool in the mitigation of pain. In case the pain is not associated with any infection, the south pole of the strong magnet should be applied directly over the ear. However, in case the infection is suspected, the north pole should be applied. In case pain is in both the ears, the north

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pole and the south pole should be applied to the right and left ear respectively. The application of magnets also covers the acupuncture points SI-19 and TW-17 which is necessary in case of earache.

ECZEMA

Eczema is an inflammatory acute and chronic disease of the skin in which clusters of tiny elevated eruptions are found. These eruptions may secrete a fluid or pus which may dry into scabs. The skin condition is generally accompanied by burning and itching. There are different types of eczema depending upon the causative factor. Accordingly it is called atopic eczema if due to ingestion of or contact with a substance to which an individual is sensitive, while it is parasitic eczema if due to presence of a parasite, and solar eczema if due to exposure to the burn-producing wave-length of the sunlight, etc. There are numerous causes assigned to eczema, the most important of them being inheritance. In addition, it may be caused by frequent chemical irritants, intestinal disturbance or even vaccination in infants and young children. Generally, ill-nourished children and adults who belong to poor families are more prone to this disease.

Proper hygiene, regular bath and proper cleaning of the skin are important in preventing this disease. The persons prone to eczema should avoid heavy and rich food as also the use of spices, pickles, acidic food, shell fish, meat, coffee, tea and alcohol. Fruits and vegetables rich in vitamin A and vitamin C should be taken regularly. In debilitated cases, cod liver oil is of great help.

In case the eczema occurs in the upper portion of the body, the general application of magnets to the palms of hands should be carried out and in case it is in the lower portion of the body, the magnets should be applied to the soles of the feet. Also, the north-pole oil should be applied over the affected

portion. The application of magnets directly over the eczematus patches should be *avoided. The healing water should be taken* internally thrice daily to help rid the blood of the pus and toxic substances.

ENURESIS

Enuresis or bed-wetting or involuntary passage of urine at night is a frequent and troublesome affection of children. Generally children gain control of bladder by the second year and if the involuntary urination continues in children of 3 years or more it is termed as enuresis. It is found more in boys than in girls and from 3 to 14 years of age. The children may urinate immediately after sleep, after first sleep or midnight or during early hours of the morning. In certain children it is found to be seasonal—during winter and rainy season. Heavy and sound sleepers seem to be more prone to this condition The most frequent cause attached to bed-wetting is tenseness, nervousness and increased excitability. Also the children who are of poor health, weak and anemic *are more given to this trouble, while in some children it may* be a matter of habit Other causes of bed-wetting may be improper development of the muscles of bladder, worms, tightness of the fore-skin of the penis, excessive acidity or intake of excessive fluids in the evening. Diseases like diabetes, urinary infection, rheumatism, adenoids and continuous lying on back at night can also cause enuresis

Exercise, fresh air well-ventilated rooms and cold morning bath help in preventing the trouble The child should be helped to overcome nervousness and to relax The children prone to bed-wetting should not be given much fluid after the evening. Other associated troubles like diabetes and adenoids should be treated promptly The diet should be rich in fats and sugars *in increase weight* 'Hot' diets like fish and eggs should be given for supper which reduce the chances of be wetting, while the foods such as cucumbers, salads and

water-melons which cause increase in the urinary secretion should be avoided.

The medium-power magnets should be applied to the soles of feet once in the morning while in the evening the north pole should be applied to the acupuncture point Sp-6 (about 7-8 cm above the inner malleolus) and CV-2 (15 cm straight below the navel). Red-oil should be applied over the area of the urinary bladder preferably at bed time.

EPILEPSY

Epilepsy is a condition which is characterized by recurring attacks of unconsciousness with or without convulsions and is associated with disturbances of electrical activity of the brain. The disease is mainly hereditary in which parental syphilis and alcoholism play an important role. The lesser known causes are the errors of reflection of eyes, nasal defects, tightness of the fore-skin of the penis, acute indigestion, worms, emotional excitement, etc. In popular language it is called a convulsion, seizure or 'fit'. Before the actual fit comes on, the patient sees colours or hears confused noises or feels worms creeping in under the skin. These are collectively called 'aura'. In a short while after the aura, the patient shrieks, falls on the ground spasmodically stretching out limbs and arches his body on the back throwing his head to one side. This may be accompanied by violent twitching and jerking of the limbs and frothing of the mouth. After a short while the body relaxes and the consciousness is regained till the next attack. The patient generally feels absolutely exhausted after an attack and shows blueness of face.

The management of the disease may be carried out as follows :

(*a*) During an attack the patient should be protected from injuring himself especially the tongue. A towel or other soft

articles should be inserted between the teeth, and the clothing should be loosened.

(*b*) Heavy and starchy food should be avoided. The patient should be kept on vegetable diet allowing milk regularly. Over-loading of the stomach and indulgence in indigestible food like cakes and pastries should be avoided.

(*c*) The other causes like errors of reflection, and indigestion should be promptly treated and the patient should be encouraged to take out-door exercise and fresh air.

(*d*) The ceramic magnets should be applied to the temples daily in the morning. In addition south pole of the ceramic magnet should be applied to the acupuncture point GV-20 (right on the top of the head) for 10 minutes daily. The healing water should be taken regularly thrice daily.

FACIAL PARALYSIS

Facial paralysis, also known as Bell's Palsy is an inflammatory disease of the facial nerve where it enters the skull *just behind the ear. The condition is nearly* always one-sided and results in frightful distortion of the face It is common in adults though it can occur in some children especially after diphtheria. Some common causes are : disease of middle ear, direct injury to the nerve, meningius or fracture of skull.

Often a person exposed to direct cold blast of air or draught may feel pain behind the ear and next day may find stiffness in the face. He will not be able to laugh or chew properly. The *eye on the affected side won't close properly. This may* be accompanied by slight rash on the face Normally, the temporary facial paralysis clears up in varying periods upto six months, but it may tend to be chronic and linger on.

In the beginning, the patient should be kept warm. In case of pain, mild heat may be applied.

Local application of the south pole of a strong magnet should be made on the affected side in the morning followed in the evening by application of the south pole to the acupuncture point TW-17 (just below the ear lobe) on the affected side. The sun-bathing and the use of red-oil are also essential.

FISTULA

Fistula is the name given to any unnatural tract or passage leading from one cavity to the other cavity of the body or which opens out from a cavity to the surface of the body. There are many kinds of fistula but the commonest one is anal fistula or fistula *in ano.* In case of anal fistula the discharging openings are found near the anus or the lower end of the rectum. These may open on the surface or in the bowels. These may also spread in all directions and have many openings. There is almost constant oozing of pus or the discharge accompanied by pain. The healing is often difficult as the faeces may enter the openings.

One of the most common causes of the anal fistula is the presence of an abscess which opens into the bowel and also upon the skin.

In order to check the formation of anal fistula it is essential to properly treat the anal abscesses. The patient should also be encouraged to take rest and avoid highly spiced food.

As for the magnetic treatment, which offers a good scope of cure, the north and south pole magnets should be kept side by side and the patient should be asked to sit over it. In case the hardness of the magnets induces pain, some soft and thin padding may be kept over the magnets before sitting. Alternatively, the magnets may be applied to the soles of feet. Use of healing water thrice daily and local application of blue-oil are essential accessary modes of treatment.

FLATULENCE

Flatulence is a condition of accumulation of wind in the stomach or in the large intestine causing discomfort and sometimes pain. The patient passes wind through belching or retching which provide temporary relief. The condition is also called flatulent dyspepsia. The *formation of gas goes on in the* stomach or the intestines due to the fermentation of food, *especially starchy which escapes digestion in the small intestines.* Some of the causes are: defective digestion, excessive intake of starchy *food or a nervous complaint in which the patient* swallows air in the stomach.

To cure this condition the magnets should be applied to the soles of feet once daily in the morning. The healing water should be taken internally, thrice daily.

GALL-STONES

Occasionally, stones may form in the gall bladder and may lie there without much discomfort or pain. But, in case the stones get dislodged from the gall bladder and pass along the bile duct causing inflammation, the patient feels unbearable pain below the right ribs and may even roll on the ground. This is called biliary colic. The condition may be accompanied by jaundice, sweating and vomiting.

The persons suffering from gall-stones should avoid taking heavy meals at long intervals, *but should take little food* at frequent intervals. As the bile is released by the gall bladder only at the time of intake of food and the accumulation of bile in the gall bladder for longer periods can lead to solidification of bile or stone formation, the *above mode of eating should* be adopted.

This is an area which is most amenable to the magnetic treatment. For this, the regular use of healing water should be made four times daily. In addition, south pole magnet should be applied to the site of pain. Besides, the north

pole should be placed on the acupuncture point St-21 (about 10 cm above umbilicus, 5 cm on the right side of the midline) and the south pole on the acupuncture point Extra-35 (5 cm below the knee on the outer side).

GOITRE

Goitre is a disease characterized by the visible enlargement of thyroid gland. The word endemic goitre is given to the disease mainly due to deficiency of iodine—the trace element is required in minute amounts for the manufacture of the hormones of the thyroid gland. This deficiency may be quantitative leading to defective manufacture of thyroxine— one of the important thyroid harmones—thereby causing enlargement of the thyroid gland situated in the neck. There are two types of goitre, namely, simple and exophthalmic. In simple goitre there may be a swelling in front of the throat which is prominent enough to be easily recognized. In case of exophthalmic goitre the most important feature is that the eyes protrude out and become prominent. Some of the reasons of the exophthlamic goitre may be fright, grief or shock or a depressing disease. As thyroid plays an important role in the physical and mental development of an individual, the goitre may in certain cases affect the development and result in dystrophy of bones (dystrophy means faulty nutrition); inability to hear or speak especially in infancy; nervousness; difficulty of breathing and swallowing when the gland attains great size.

The enlargement of the gland may be uniform or greater on one side or on the middle portion. The tumour is generally elastic and free from pain. Goitre is common in certain regions like sub-mountaineous or *tarai* where crops are found deficient in iodine.

Diet plays an important role in correction of the disease. Some of the foods like marine fish, green vegetables, bananas

and turmeric should be taken regularly. The ceramic magnets should be applied directly over thyroid gland—north pole on the right lobe and the south pole over the left lobe once daily. The healing water should also be taken regularly.

GOUT

Gout is a painful constitutional disease with inflammation of joints and chalky deposits (called Tophi) mainly due to excess of uric acid in the blood. The tendency to inherit the gout trouble is called the gouty diathesis. Men are more attacked then women. There are many causes of gout, namely, alcohol, lead poisoning, intake of rich food especially proteinous and lack of exercise. One of the common types of gout found is rheumatic gout which assumes a form of arthritis. Gout mainly affects the joints of the big toe or a thumb which swells and becomes hot, painful and sensitive to touch. The pain is terribly aggravated by slightest motion or jar. The disease may be accompanied by headache, vomiting and feverishness. The attacks are periodic and recur every few months. The disease affects either big toe on one side or both sides or alternates from one side to the other. If ill-treated or mismanaged, it can affect the vital organs like heart.

With a view to avoid occurrence of gout, it is necessary to take simple balanced diet and to avoid the use of alcohol and salt in any form. The patient can take butter, milk, green vegetables and fruit. The foods like cheese, eggs and pulses should be avoided.

The strong magnets should be applied to the region of the big toes in the morning, followed in the evening by application of magnets on the acupuncture point GB-34 (outer side of the knee)—north pole on the right side and the south pole on the left side. The healing water should be taken thrice daily.

GUMS, SWELLING AND BLEEDING

Bleeding and swelling of gums may be due to many reasons but the most common cause is a gum boil or alveolar abscess in which the gums become very inflamed and swollen. Other causes are *infection*; gingivitis—inflammation of the fleshy structure covering the tooth-bearing part of the jaw; pyorrhoea in which large quantities of pus collect in the socket of the teeth; deficiency of vitamin C; frequent use of hard tooth-brush; etc. Owing to the above diseases of gums, the latter recede and bleed on brushing, pressure, etc.

Proper diet, green vegetables and fruits especially *amlas* which are rich in vitamin C should be taken. In addition, vitamin C 50 mg tablets should be taken once daily. Use of hard and rough tooth-brush should be avoided. If the gums are spongy, light massage with a finger will encourage the circulation and improve their condition. Regular gargling with warm water helps a great deal in mitigation of pain and swelling.

In case of pain, swelling and pus formation due to infection, north pole of the strong magnet should be applied on the affected side. However, in case of inflammation and pain not associated with tooth decay, south pole of the strong magnet should be adequate to mitigate the pain (*see* Fig. 26). The ceramic magnets should also be applied to the acupuncture points St-1 and St-5—both on the affected side with north pole on St-1 and south pole on St-5, or if both sides are affected then north pole on St-1 on the right side and south pole on St-5 on the left side. The acupuncture point St-1 is located just below the eyes and St-5 on the angle of the jaw. Gargling in the morning and at bed time with healing water prepared on the north pole greatly helps in case of conditions attended with pus formation and receding of gums.

HEADACHE

Pain in the head—either in the forehead, temples, back side of the head or top of the head is conventionally designated as



Fig 26 Application of Magnets in Toothache

headache. According to the character of the pain, the headache is described as stabbing, aching, nagging, throbbing, tearing, bursting, etc. There are many causes of headache right from lack of sleep to indigestion and it forms an important symptom in a number of diseases like influenza, measles and scarlet fever, and other conditions like eye strain; sun-stroke; cold moist weather; defective teeth; nose and throat troubles; troubles of the stomach, liver, heart and kidney, rheumatism;

toxaemia; etc. However, the most frequent cause of headache is indigestion in adults and infectious fever in case of children. A variety of headache which occurs periodically and results in severe bounding headache is called sick headache or migraine in which there is aching of half of the head. Sometimes headache may be accompanied by nausea or blurring of vision.

The ceramic magnets should be applied to the head—north pole to the right side and south pole to the left side over the temples, in case the headache is in the temporal region or the forehead. In case the pain is at the top of the head only the south pole of the magnet should be applied on the top of the head. In case the pain is on the back side of the head or occiput, the south pole of the magnet could be placed on the occiput. It should be borne in mind that no strong magnet should be applied to the head. In addition to the above application which should be carried out if the severe pain strikes, the application of ceramic magnets to the acupuncture points St-8 (for frontal headache), GB-8 (for parietal and temporal headache) and GB-20 (for occipital headache) should also be carried out if the direct application of magnets as suggested above does not help. The magnets should be applied in pairs on the acupuncture points located bilaterally. The acupuncture point St-8 is located at the corner of the forehead within the hair line, GB-8 is located above the apex of the auricle (the flap of the ear) and GB-20 on the nape of the neck in the occiput. Besides the application of magnets, the healing water should be taken regularly which will greatly help in headaches mainly due to indigestion or diseases of stomach, liver or kidney or due to toxaemia.

HEIGHT, TO GAIN

The height in a person is generally governed by heredity though the same can be improved by constant exercises. However, in certain cases due to malfunctioning of the pituitary gland or thyroid gland, the height may tend to be small which

may be a stumbling block for personality development in certain individuals.

Besides the exercises like *pull-ups and running, proper* intake of diet rich in calcium, protein and vitamins is absolutely necessary for increasing the height. In addition, the ceramic magnets should be applied once daily at bed time in the following manner:

The ceramic magnets should be applied to the temples—north pole on the right side and south pole on the left side on one day and on the forehead and occiput (back of the head) on the other day—north pole on the forehead and south pole on the occiput. This application should be continued for three months and again followed for another period of three months after a brief pause of about a week in between the two periods. The healing water should also be taken regularly.

HEPATITIS

Hepatitis means inflammation of liver which is characterized by the pain in liver, headache, bad taste in the mouth, coated tongue, loss of appetite and whitish stools. In case of chronic hepatitis, there may be jaundice, vomiting, enlargement of liver and formation of abscess in the liver. There are many *causes of hepatitis, the common* being chronic malaria, abuse of quinine and mercury, excessive drinking, dis-organization of the function of the liver possibly by a virus resulting in infective jaundice, or due to bacterial and chemical causes resulting in toxic jaundice. The diagnosis of *hepatitis* can be easily established by examining the liver, skin, urine and faeces and through the liver-function tests.

As almost any disease of liver results in the disturbance of production of bile or working of the bile duct it is necessary to avoid fat in any form and also to avoid the use of alcohol. Only *glucose, sugar, rice* and *similar starchy foods* should be taken till the disease lasts.

The north pole of the strong magnet should be applied over the liver region once daily in the morning followed in the evening by application of strong magnets on the acupuncture point Liv-3 (located between first and the second toes)—north pole on the right foot and south pole on the left foot. The healing water should be taken four times daily. In addition, the blue-oil should be applied over the inflamed area at bed time which helps in reducing the inflammation.

HERNIA

Hernia is a condition in which abnormal protrusion of an organ or a part thereof through structures mainly containing it takes place. It is normally of the organs in the abdomen in the covering called abdominal wall. However, due to certain reasons an organ or a piece of the bowel may protrude which forms a lump under the skin. In other cases the passage communicating between the abdominal cavity and the scrotum may forcibly open either gradually or by rupture of fibre muscles due to sudden strain with the result that the intestine lying behind this passage may be forced out. The patient feels intense pain and discomfort in the region and feels nausea or vomiting. This type of hernia is called inguinal hernia. There are other types of hernia, namely, umbilical—mostly found in small babies in which case hernia occurs at the umbilicus or navel. Yet there is another painful type—hiatus hernia—in which protrusion of any structure may occur through the oesophageal hiatus (hiatus meaning opening or cleft) of the diaphragm.

One of the conventional ways to replace hernia in position is to wear a properly-fitting support called a truss. Patients suffering from hernia should avoid lifting heavy weights or heavy straining. In case of simple hernia, the lump can be pushed back mechanically but slowly.

In case of intense pain of hernia, the south pole of the strong magnet should be applied over the hernia which should provide

great relief. *In addition, strong magnets should also be applied* on the acupuncture point P-6 (over the wrist)—north pole on the right side and south pole on the left side about 12 hours after the local application suggested above.

HOUSEMAID'S KNEE

This is a condition caused due to frequent kneeling resulting in swelling on the knee *which usually becomes inflamed.* It occurs due to a condition called bursitis or inflammation of bursa—a small enclosed sac containing sticky fluid which is present in different parts of the body *where two parts would* rub on each other. With the inflammation of the bursa the tissue of the neighbourhood becomes swollen, hot and red. In chronic forms of bursitis, or housemaid's knee, the movement of the knee may be restricted.

The south pole of the strong magnet may be applied locally over the knee. *This should be followed by application of* the south pole of the strong magnet over the acupuncture point GB-34 (outer side of the knee) about 12 hours later. In addition, *application of red-oil and sun-bath should also be* carried out

HYDROCELE

This is a condition in which collection of fluid near the testicles or around the spermatic cord takes place. This condition generally occurs in infants *at birth and is also* common in middle-aged men. The condition *may be unilateral* or bilateral. The causes are not known. *However, in certain* cases, it may be caused due to *injury to or disease of testicles.* The symptoms of the disease are: swelling on *one side of* the scrotum (the bag holding the testicles) *which may be* rounded in shape, its size depending on the *amount of fluid* present. The condition is generally painless. *The ceramic* magnets may be applied over the scrotum—*north pole on the*

right side and south pole on the left side. In addition, the healing water may be taken four times daily.

HYPERACIDITY

Excess of acidity in the gastric juice is medically known as hyperacidity or hyperchlorhydria. It is also commonly called 'heart-burn' as there is sour or burning taste in the throat and at the back of the tongue due to sourness of the stomach. The condition is also accompanied by sour taste in the mouth and increased flow of saliva and gas formation in the stomach.

The person suffering from hyperacidity should avoid excessive use of sugar, starch, pulses like dals and beans, as well as the use of alcohol. He should, however, take more of vegetables preferably leafy vegetables and citrus fruits.

The strong magnets should be applied to the palms of hands once daily. The use of healing water is absolutely necessary.

INFLUENZA

This is an infectious disease caused by a virus, and occuring in an epidemic form. The infection takes place through droplets of saliva flying out by cough, sneezing, speaking loudly, etc, or use of cloth and handkerchief infected by the patient. The chief symptoms of the disease are : cough, cold and sneezing, intense pain in the forehead and in the joints, prostration, sleeplessness and fever. There are three main types of influenza, namely, respiratory (causing bronchitis, pneumonia), gastro-intestinal (causing inflammation of stomach and intestine with diarrhoea and vomiting) and nervous (causing severe headache). The course of the disease is short but if neglected, it may tend to be complicated.

The patient should take complete rest in bed and should take nutritious food. The strong magnets should be applied

to the palms of hands in the morning and the soles of feet in the evening. The healing water should be taken *four times* daily which not only provides great relief in the ache and malaise but is a preventive in case of epidemics. If taken as a preventive, the healing water should be taken twice daily by healthy people.

INJURIES

Injuries may be due to a fall, sprain (tearing of the ligaments and tissues around a joint), strain (over-stretching of muscles), rupturing of muscles, crush injuries, due to crushing by some heavy weight such as machinery, bruises, cuts, etc. The injuries also include the wounds which may be caused by puncturing or by a blow in which there is usually a cut of the skin.

In case of sprain, the south pole of the strong magnet may be applied locally. However, in case of multiple injury, the strong magnets should be applied to the palms of hands or the soles of feet depending upon seat of the injury, that is, whether of the upper portion or lower portion of the body. In case of injury to the eyes or to the head, the ceramic magnets may be used locally. The use of red-oil is often beneficial.

INSOMNIA

Insomnia or sleeplessness is caused due to many reasons, namely, disturbed state of mind, insufficient exercise, lack of fresh air, strenuous work or due to strong stimulants like coffee and tea. Insomnia is also one of the symptoms of a number of diseases like heart or chest complaints, bodily ill health, etc.

With a view to prevent insomnia, it is necessary to provide for proper ventilation in the bed-rooms and take sufficient exercise regularly. Light and early meals should be taken. A warm bath often stimulates good sleep. Similarly, a glass

of warm milk with honey is soothing and promotes sleep. However, use of sleeping pills and tranquilisers should be avoided. South pole of the ceramic magnet should be applied to the forehead about an hour before retiring to bed. Regular use of healing water also promotes good sleep.

JAUNDICE

Jaundice or icterus is characterized by the presence of bile pigment in the blood which transmits yellow colour to the conjunctivae of the eyes and skin. This condition is accompanied by simple obstruction in the bile ducts due to inflammation which prevents flow of the bile from the liver and gall bladder into intestine. There are different types of jaundice, namely, obstructive jaundice caused by obstruction of the bile ducts due to gall-stones, inflammation of bile ducts, entry of the worms from duodenum or tumour; infective jaundice which is also called infective hepatitis (*see* Hepatitis); haemolytic jaundice caused due to excessive destruction of the red cells of blood and generally occurs in case of infants or the new-borns and is called *Icterus neonatorum*; and toxic jaundice due to bacterial and chemical causes.

The chief symptoms of jaundice are yellowness of conjunctivae, roots of nails, face, neck and lips. The urine turns dark yellow and stains the linen. The faeces are pale yellow due to lack of bile and are offensive due to presence of excess of fatty acids. The disease may be accompanied by slight fever and constipation or diarrhoea.

The use of alcohol should be avoided. The diet rich in sugar and starch should be taken. The strong magnets should be applied to the soles of feet. The healing water should be taken thrice daily.

KIDNEY-STONES

Kidney-stones or renal calculi are sometimes found in kidneys which may move towards the bladder through ureters.

patient suffers terrible attacks of excruciating pain when the stone passes through narrow ureters or obstructs the passage in the bladder. Some persons have natural tendency to the formation of stones which are of different types like uric acid, calcium carbonate, calcium phosphate though in most cases these are found to be of calcium oxalate. The size of the stones also varies from that of the lentil-seed to a diameter of a few centimetres. The pain caused due to obstruction in the urinary passage is called renal colic. The detection of stones in the pelvis of kidney or in the ureters or in the bladder can be made through x-rays. To begin with, the patient feels burning in urine and sometimes observes a dust-like sediment in urine. Also, depending upon the size of the stone pus may occasionally be found in the urine. The type of pain occuring in this trouble is often radiating which is referred to different parts of the abdomen.

For management of the renal calculi, proper control over diet should be maintained, that is, the patients prone to this trouble should avoid certain foods like spinach which is rich in oxalates, or highly proteinous food rich in uric acid. They should take sufficient quantities of water and other fluids to flush the kidneys. One of the oft-advised practice is to form a habit of micturating immediately after the principal meal.

This disease offers a good scope for treatment and cure with the use of magnets. Details of application of magnets and intake of healing water are as follows :

(*a*) The persons prone to renal calculi should regularly apply strong magnets to the soles of feet. They should also take healing water thrice daily.

(*b*) When the renal colic strikes, a strong magnet should be applied over the painful part—north pole on the right side or south pole on the left side. In addition, magnets should be applied to the acupuncture point K-3 (between the inner

malleolus and tendo-achilles) and K-5 (just below the inner malleolus and about 2.5 cms below K-3)—north pole on K-3 on the right side and south pole on K-5 on the left ankle.

(c) The healing water forms the most important adjunct to the above treatment as it not only dissolves the different types of stones which are ultimately passed out through urine but helps the body in getting rid of abnormal accumulation of different salts which are responsible for formation of the stone and other deposits in the body. The healing water should be taken 4 times daily.

LEUCODERMA

Leucoderma (Leuco means white and derma means skin) is an acquired condition of the skin in which white patches appear in different regions of the body. These patches may be of any regular or irregular shape. This disease seems to have certain hereditary pre-disposition and is found to occur in all ages right from childhood upto the old age. The loss of pigmentation of the localised parts of skin generally starts as a small spot on any organ but the same tends to spread upwards and downwards. Many a time, the dispigmentation starts with a physical injury which then turns into the widespread leucoderma patches. In case the patch of leucoderma develops on the scalp, the hair growing on that area loses its colour. The same also applies to the hair on any part of the body where whitish patches appear. Besides the hereditary trait, nutrition also seems to play an important role. Lack of intake of vitamins A and D and nutritious food in general can also lead to this trouble.

An associated condition similar to leucoderma is called vitiligo which occurs due to failure of the formation of pigmentation in the skin, thus producing sharply demarcated milky-white patches of hyper-pigmented borders. This trouble makes a person feel disfigured and awkward and may also lead to many emotional stresses and upsets.

Persons suffering from this trouble should partake foods rich in vitamins A and D, namely, cod liver oil, green vegetables, fruits, etc, and should also take diet balanced in protein, minerals, etc.

Astonishingly, the leucoderma and vitiligo have responded marvellously to the treatment with magnets. The strong magnets should be applied to the soles of feet in case the patches are found in the lower portion of the body (below the navel) and to the palms of hands if the patches are found in the upper portion of the body (above the navel). A supplementary treatment which has been found to be effective is to apply *bouchi oil* to the patches before application of magnets.

LEUCORRHOEA (White Discharge)

Any discharge which comes from the female genital passage and *is not blood is termed leucorrhoea. It is generally of* whitish colour and is more often referred to as 'white discharge' or 'whites', though the discharge may be white, milky, yellowish or even bluish. Many women and young girls suffer from this trouble. If this is neglected, the discharge becomes purulent and produces ulceration in and about the os. This condition is usually accompanied by headache, pallor of face, constipation and flatulence. Some of the causes of leucorrhoea are broken health, rheumatism, anemia, occasional menorrhagia, excessive coitus, repeated abortion, uterine irritation, cancer, etc. This condition may also be found in certain children and there may be inflammation and redness around the opening of the front passage as well as the discharge. The condition may be caused due to lack of cleanliness or irritation from thread-worms.

In case the discharge is due to poor health, emphasis should be laid on proper diet and fresh air, and attention should also be paid to proper cleanliness like regular washing of the parts with warm water and soft soap. The bowels must be kept open as constipation aggravates the condition. Other conditions as

mentioned above which cause this trouble may also be looked into and corrected.

The women suffering from this disease should apply strong magnets to the soles of feet regularly in the morning followed in the evening by application of north pole on acupuncture point CV-4 (about 10 cm straight below the navel). In case of inflammation and infection, the parts may be washed with healing water prepared on north pole only. The healing water should also be taken internally thrice daily.

LUMBAGO

The pain and stiffness in the muscles of the lumbar region (the small of the back) is called lumbago. This affection may make bending and turning extremely painful and in certain severe cases even the sneezing or coughing may induce terrible shocks of pain. There are many causes of this condition, namely, injury, strain, rheumatism and lumbar spondylosis or degenerative changes in the spine, the latter is cause of recurrent low-back pain and backache. Generally, a patient feels persistent dull aching pain which is relieved by rest or by sitting upright and providing support at the back while it is made worse by slightest bending forward or crouching or slouching in the chair or by lifing heavy weights. In case of lumbar spondylosis, the 3rd and 4th lumbar vertebrae, the intervertebral disc and the joints between the vertebral arches are mainly affected. The cartilage which lines the joint becomes so damaged that the bones become very painful on slightest movement.

During acute pain, the patient should take rest in bed and should avoid exercise, bending or strain. Use of hot-water bottle to the back should be made. The management of lumbago is the same as in case of *Backache.*

MALARIA

Malaria or intermittent fever is a febrile condition characterized by the paroxysmal condition with chill, heat and

sweating stages. Some of the accompanied symptoms are severe headache, vomiting, diarrhoea, rigor or convulsions with a high temperature which at times reaches 41.5°C or more. The exciting cause of this disease is a protozoa called *Plasmodium*. Depending upon the species of the *Plasmodium* which cause varying symptoms, malaria is classified as tertian malaria in which the fever paroxysms occur every 3rd day (every other day); quotidian (the fever symptoms occur every day); and quartan (the fever symptoms occur every 4th day or every 3 days). The malarial paroxysms is carried by *Anopheles* mosquito which transmits the disease from a malaria carrier to the healthy person by its bite. People living in warm climates and marshy and swampy places are more prone to this disease. The disease runs a cyclic course and consists of chill which is accompanied by rigor, headache and nausea; fever stage following the chill stage which results in higher fever upto 41°C and finally the sweating stage which follows the fever stage. The entire attack generally lasts from 4 to 48 hours. Besides the characteristic and well-marked stages, the diagnosis can be confirmed by a blood-smear for the malarial parasite. It is advantageous to take temperature every two hours and prepare a graph chart. Malaria also results in enlargement of spleen or liver or both and the patient complains of pain in the splenic or liver region.

People living in malarial regions should make use of mosquito nets. Stagnant water in and around the house should be removed or sprinkled with the kerosene to kill the mosquito larvae. During the attack specially during cold stage the patient should be covered with plenty of blankets. The diet should be hot drinks like barley water during cold stage and cold drinks during hot stage.

During cold and hot stages, the strong magnets should be applied to the palms of hands. After the attack subsides the magnets should be applied to acupuncture point LI-11 (at the lateral end of the elbow crease when the elbow is flexed) and

GV-14 (in the back midline just below the vertebral prominence—7th cervical vertebra)—the north pole should be applied to GV-14 and the south pole to LI-11. The healing water should be taken every 2 hours especially during the hot stage and every 4 hours during feverless period.

MEASLES

Measles or rubeola is an acute infectious, highly communicable disease characterized by typical symptoms of profuse watery flow from eyes and nose, sneezing, short and tight cough and the rash in the form of indefinite pink spots which first appear in the forehead and behind the ears and then over the trunk and limbs. These are accompanied by slight fever which shoots up about the 4th day. This disease is caused by a virus which is found in the mucous membrane of the respiratory tract, mouth and conjunctiva as well as in the patient's blood. The virus is transferred from a patient to the healthy person during sneezing and cough by means of droplets injected. This disease is more common in childhood than in adulthood. There is generally a lapse of 7 to 14 days between exposure to the disease and the appearance of symptoms and a child can communicate to others about 4-5 days before the appearance of the rash.

The most important symptoms which distinguish measles from smallpox and scarlet fever are the peculiar watery appearance of the eyes which get more or less inflamed and fear of light (photophobia).

As a preventive, when the epidemic of measles is around, the healing water should be taken thrice daily. When the attack is suspected and the typical symptoms appear, the healing water prepared on north pole only should be taken internally which will not only help in throwing out the eruptions but would avoid further complications like bronchitis and pneumonia.

MENORRHAGIA OR METRORRHAGIA

The condition attended with profuse bleeding and a prolonged mengstrual period in women is called menorrhagia while the uterine bleeding not connected with menstruation is called metrorrhagia. While it may be normal in certain women and young girls to have prolonged menstruation extending even upto a week, menorrhagia is common at menopause in women. There are many causes of the irregular and excessive bleeding from womb namely miscarriage, tumours in womb, endometritis (inflammation of the mucous membrane—endometrium—which lines the uterus), and diseases like anemia, goitre, etc. The excessive bleeding produces pallor of face and sunken eyes, cold extremities, weak sight and weak pulse, buzzing in the ears, headache, etc.

For treatment of these conditions, strong magnets should be applied to the palms of hands daily in the morning followed in the evening by application of magnets to the acupuncture point Sp-6 (about 7-8 cm above the inner malleolus)—the north pole on the right side and the south pole on the left side. The use of healing water should also be made thrice daily.

MUMPS

Mumps or parotitis is an infectious disease characterized by swelling and tenderness of one or more salivary glands, usually parotid which lie in the hollow just under the lobe of the ear. The patient suffering from mumps feels pain behind the angle of the jaw on opening the mouth The glands sometimes attain a very large size. The enlargement generally occurs on one side. This disease is common in children and is caused by a virus which attacks the nervous system and the salivary glands. The virus is transmitted by direct contact and children usually contract the disease through playmates and school-fellows. Generally, there is a lapse of 14 to 20 days

between exposure and appearance of symptoms and a child could communicate the disease to other children between 1 to 6 days after the onset of the swelling of the face.

The pain behind the angle of the jaw may be preceded by slight fever, shivering and sore throat and the temperature may later rise to 39° to 40°C. Within 2-3 days the entire parotid region stands out prominently as a tense, *shining* swelling. Generally, a week after the onset, orchitis (inflammation of the testes) in boys and inflammation of mammae in women and girls as well as pancreatitis may occur.

For the management of the disease, the medium-power magnets may be applied over the swollen region—north pole to the right side and south pole to the left side. In case the gland of only one side is swollen, the north pole of the magnet should be applied over it. The use of blue-oil over the swollen gland at bed time is also beneficial in reducing the inflammation and pain.

The magnets can also be used with advantage for application in case of orchitis or inflammation of mammae.

NECK, STIFFNESS

Pain and stiffness in the neck may occur due to many causes, namely, sprain; swelling of the neck glands which may be due to infection of teeth, tonsils or the ear; ankylosing spondilitis (for details *see* under *Spondylosis*); rheumatoid arthritis; Herpes zoster (a viral infection of nerves); and torticollis (a contracted state of cervical muscles, with torsion of the neck). Some persons develop stiffness on exposure to cold.

Ninety percent of the neck pains will improve without medication. However, for some it may be very painful and the pain and stiffness may restrict the movement of the neck.

As the pain and stiffness of neck generally worsen by sleeping on one side for long hours and by using 2-3 pillows

under the head, the persons given to this painful affection should avoid these and should use only one pillow. They should avoid soft matresses and should preferably sleep on a hard bed. As soon as the trouble strikes, the patient should be made comfortable and warm in the bed by wrapping around woollen scarf, or using a hot-water bottle, etc.

The strong magnets should be applied directly over the neck —north pole on the right side and south pole on the left side. An extra application of the magnets to the acupuncture point SI-3 (on the outer margin of the palm, about 5 cm below the root of the little finger). For this, the margin of the palm be kept over the magnet. The magnets should be applied to the acupuncture point on both sides.

Massage of the neck with red-oil or south-pole oil also helps in mitigating the pain and stiffness.

NEPHRITIS

Inflammation of kidneys is called nephritis. It is also called Bright's disease. It may be a simple inflammation caused by exposure to draught or more complicated degenerative changes of the kidneys due to many factors such as, ingestion of certain poisons and chemicals; alcoholism; complications of diseases like diphtheria and scarlet fever and injury. While the simple type of inflammation can get relieved by proper rest, warmth and diet, it has a tendency to become chronic, if neglected. Hence, care should be taken to treat this condition properly.

The chief symptoms of nephritis are : excessive redness of urine which may later become scanty and smoke-tinted; swelling of the whole body with puffiness of the eyes, face and ankles; burning pain during urination; fever; nausea and vomiting.

Diet plays an important role in proper management of this disease. Salt should be immediately stopped as long as

swelling of the body persists. Intake of proteinous food such as milk, cheese, eggs should be avoided ; only the orange juice, lemonade and tea may be allowed. Slowly the patient may be placed on cooked vegetables, rice, butter, etc. The healing water forms an invaluable medium to cure this dreadful condition. The healing water should be prepared by properly boiling and cooling potable water and the water-filled bottles should be placed on the north pole. In case of acute condition the water can be taken every hour or two and the interval may be gradually increased to 4 hours.

The strong magnets should be applied to the soles of feet in the morning followed in the evening by application to the acupuncture points Sp-6 (about 7-8 cm above the inner malleolus) and CV-4 (about 10 cm straight below the navel)—south pole to the former on the left side and north pole to the latter.

Application of blue-oil to the kidney region also helps in mitigation of pain and swelling.

NEURALGIA AND NEURITIS

Pain in any nerve is called neuralgia while the inflammation of a nerve is termed as neuritis.

The neuralgic pain may be anywhere along the course of the nerve, for example, face, teeth, sciatica, etc, depending upon the portions of the affected nerves. The main cause of neuralgia is exposure to cold and wet weather or a number of diseases like shingles, diabetes, lumbago, etc. In neuralgia a patient feels intense pain, mostly unbearable which is aggravated on slightest touch or even washing. The sharp pain may alse induce numbness of the affected part.

The neuritis is caused due to chemical poisoning such as lead or arsenic poisoning, alcoholism and diseases like diphtheria. Neuritis generally results in the pain and loss of power

of the organ controlled by the affected nerve, *leading to pronounced* numbness of the part or limb.

Rest and warm application are useful in the initial stages. Application of south pole of the magnet directly to the affected part in case of neuralgia and neuritis affords great relief in pain; while general application to the soles of feet or the palms of hands should be resorted to depending upon the area of the affection. In case the pain runs along a limb, as in case of sciatica, the north pole should be applied to the starting point of pain and the south pole to the terminal point (*see also* under specific disease-heading).

The blue-oil affords relief in case of pain, inflammation and heat in any part and can be used twice daily—one before the application of magnets and the other at bed time or when the pain is intense.

OBESITY

Obesity is the condition of an excessive accumulation of fat in the body The obese persons are plumpy, fat and show the accumulation in different parts notably in the abdominal region. Obesity not only places an extra burden on all internal organs of the body like heart and lungs, but makes a person vulnerable to many associated conditions like diabetes [illegible] pressure and arthritis

(*b*) Magnets which are also effective in case of obesity due to the glandular mal-function should be used. For the purpose, the strong magnets should be applied to the palms of hands in the morning followed in the evening by application of the magnets to the acupuncture point St-21 (about 10 cm above the navel, 5 cm lateral to the midline)—north pole to the right side and south pole to the left side (*see* Fig. 27).

(*c*) The healing water should be taken regularly.



Fig. 27 Application of Magnets in Obesity.

OPHTHALMIA

(see Conjunctivitis)

ORCHITIS

Inflammation of testicles is known as orchitis. The testicles become swollen and painful but may sometimes be painless. It occurs as a complication of mumps in children or as a result of gonorrhoea or syphilis (*see also* under *Mumps*). *When the inflammation extends to epididymis* (*the* cord-like structure) it is known as epididymitis.

Local application of medium-size magnets to the testicles should be made. The north pole magnet should also be applied to the acupuncture point CV-2 (about 15 cm straight below the navel)—about 12 hours after the local application. Application of blue-oil to the scrotum twice daily—once before the application of magnets and the other at bed time—*is* also useful.

OSTEO-ARTHRITIS

Inflammatory disease of the joints in which degenerative changes take place in the bone is called osteo-arthritis (*osteo* means bone, and *arthritis* means inflammation of a joint). For other details *see Rheumatoid Arthritis* under *Arthritis*.

OSTEOMYELITIS

This is a painful condition, especially of children, in which the bone marrow is inflamed due to infection. The patient feels intense pain in the long bones like femur and in the joints in the neighbourhood. This may be accompanied by high temperature and swelling of the affected limb. This is mainly a surgical condition as it is often necessary to let out the accumulated pus in the bone which may otherwise spread to other healthy joints.

As soon as the child complains of pain in the long bones and shows marked temperature, it should be put to rest. A strong north-pole magnet should be applied locally over the site of the pain (in case of children above 10 years of age ; in case of younger children, medium-size magnets should be used). The application of north-pole oil to the affected limb affords relief in pain and swelling.

OTORRHOEA (Discharge From Ear)

(see under **Earache**)

OVARIAN CYSTS AND TUMOURS

Cyst is a swelling filled with fluid or semi-solid material. Cysts are of different size—from lentil-size lump to an enormous growth. Ovarian cysts are common in women and these sometimes grow to big size. Most of the cysts are harmless except they cause increase in the size of the organ and may be unsightly. Tumour is a swelling or enlargement especially one due to pathologic over-growth of tissues. It may be benign (just an over-growth) or malignant with fast pathologic proliferation of the cells. The benign tumour does not generally recur after removal while the latter grows up again or spreads to adjacent organs. A cystic tumour contains cavity or cavities.

Generally, some type of constitutions called sycotic constitutions in the homoeopathic parlance—showing constitutional effects of suppressed gonorrhoea—are more prone to the benign or malignant over-growths. The ovarian tumours may be painful or painless but are accompanied by associated symptoms like enlargement of abdomen, displacement of uterus, leucorrhoea, fever and dropsy.

The application of strong magnets helps in curing these troubles. The magnets should be applied directly over the ovarian region—about 7-8 cm below the navel and about 5 cm lateral to the midline, where the acupuncture point St-25

also lies—both north pole magnets on the right and the left side. The healing water should also be taken regularly. This treatment is also useful in case of inflammation of ovaries (ovaritis).

PALPITATION OF HEART

Palpitation of heart is a condition where a person becomes aware of his or her heart beat and can even hear it. Normally we do not feel the heart beat inside our breast, but due to certain causes the heart beats quickly than the normal. Generally, this condition is not associated with any serious heart trouble (though at times it may be a symptom of the disease of heart muscles or valves). In majority of cases, it is due to over-indulgence in stimulants like tea, coffee and alcohol; or due to nervousness; debility; fear, and excessive vital discharges. However, it leaves a person anxious and conscious of the heart beat.

For treatment of palpitation with magnets, one must hold the north pole of the ceramic magnet in right hand for 10 minutes, and in addition should take the healing water regularly. The magnets should never be applied directly over the heart region.

Shava asana (corpse posture) as has been described under *Blood Pressure* is very helpful in normalizing the heart beat. It is also necessary to avoid excessive use of stimulants.

PARALYSIS

Paralysis simply means the loss of power of movement in a limb. This mainly occurs due to injury to the nervous system or any disease of the latter. The extent of paralysis and the limbs affected depends upon the part of the nervous system damaged.

Different conditions of paralysis are given different names. Thus hemiplegia refers to paralysis of one side of the body

which the arm and the leg of one side are affected ; while the term paraplegia refers to paralysis of half of the body, usually lower half. Birth paralysis refers to the paralysis due to injury to brain at birth. Paralysis agitans or Parkinson's disease means the progressive disease of late life in which stiffness of the muscles of limbs and tremor appear in the arms. Poleomyelitis or infantile paralysis is the condition in which the nervous system is damaged due to a germ and the loss of power in a limb or the limbs occurs. Locomotor ataxia is also a type of paralysis in which a person loses the sense of coordination. For further details, look under specific heading.

While the treatment depends upon the type of paralysis which will be suggested under specific disease, the general rule in the application of magnets in paralysis in that the strong magnets may be applied according to the area of affection and the need. In case of paraplegia, the north and south poles should be applied to the palms or soles depending upon the area affected.

In case of hemiplegia, the north and south poles should be applied to the palm and the sole of affected side respectively while the magnets may be applied to the palms of hands in case of paralysis agitans. The magnets should be applied to the appropriate acupuncture points TW-2 (at the junction of the fourth and fifth fingers) and LI-4 (at the junction of the thumb and pointer finger)—north pole on TW-2 on the right side and south pole on LI-4 on left side.

Application of red-oil and sun-bathing of the affected parts gives assured relief in paralytic affections.

PILES

Piles or haemorrhoids are small tumour-like swellings of the veins in the lower part of the rectum. It is truly a varicose condition of a vein in which it is dilated, twisted and

knotted. The piles are either external or internal. The external piles are seen as a single swelling or like a bunch of grapes which may be painful and itching if infected. The internal piles are located inside the rectum and cannot be seen from outside but may protrude from the opening (*see* Fig. 28). The piles may again be categorized as bleeding or blind—the former type bleed and the latter do not bleed.

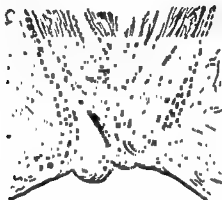


Fig 28 Haemorrhoids or Piles.

Piles are generally caused due to chronic constipation, excessive intake of alcohol, pregnancy, highly spiced foods, prolonged sitting, liver disease, abuse of purgatives and lack of personal hygiene.

With a view to prevent the occurrence of piles, the above exciting factors should be scrupulously avoided and proper attention paid to personal hygiene. The diet should be simple, nourishing and balanced. Some of the foods like turnips, radish, cucumbers, spinach and fruits such as apples, mangoes and pears are rich in dietary fibre and help in prevention of piles.

The magnetic treatment for piles consists of application of strong magnets directly over the anal region. For the purpose, the magnets should be placed side by side and the patient

should be asked to sit over it. If it is painful to sit over the magnets, the magnets may be applied to the soles of feet.

In case of itching, pain and fissures, application of blue-oil affords considerable relief. However, if the piles are infected, the application of north-pole oil is advisable.

PNEUMONIA

Pneumonia is an inflammatory condition of the lungs. It is mainly of two types, namely, broncho-pneumonia (also called lobular pneumonia) and lobar pneumonia (also called croupous or pleuro-pneumonia). In case of broncho-pneumonia, little patches of the lung are affected and its onset is identical to bronchitis. It is more common in very young children below 2 years of age and the predisposing conditions are mal-nutrition, debility and exposure to cold. This type of pneumonia is most commonly associated with measles, whooping-cough or influenza. The chief symptoms of broncho-pneumonia are high temperature upto 39° C, dry cough, pain in the chest, and shortness of breath.

The term lobar pneumonia applies to the inflammation of an entire lobe or division of the lung which becomes solid due to the thick secretion poured into the air vesicles of the lung. The chief symptoms are : pain in sides of the chest, high fever, cough, rusty sputum, vomiting, flushed face, quick pulse and shivering.

The following mode of treatment may be adopted :

(a) The diet should be restricted to fluids and semi-fluids, eggs, milk, meat extract, etc.

(b) Proper rest in bed is absolutely necessary. The patient should rest on high pillow and should not be allowed to lie flat all the time to avoid congestion of the lung.

(c) Strong magnets should be applied to the palms of hands twice daily. Also, healing water should be taken four times daily.

(*d*) Red-oil or south-pole oil should be applied to the chest which will help in reducing the distressing symptom of pain.

POLIOMYELITIS

Poliomyelitis or infantile spinal paralysis mainly affects children above the age of one year. This disease is characterized by an inflammatory infection of the spinal cord in which one or more limbs, upper or lower or only a group of muscles in one or more limbs are affected. The common form of poliomyelitis is the acute anterior poliomyelitis which is an acute infectious disease usually marked by fever, paralysis and muscular atrophy. The main symptom of the disease is fever accompanied by *sore throat, convulsions or gastric* symptoms. Immediately after the occurrence of fever, the child is unable to walk or stand properly or has loss of power of arm. The lower extremities are frequently affected though not equally. If in the upper extremities, the deltoid extensors of the wrists are most frequently affected. Generally, there is much more paralysis in the stage of attack itself than there is after the attack is over. Though the child slowly recovers after the attack but the complete recovery of muscle power is seldom found.

The management of the disease in its acute or chronic form may be done as follows :

(*a*) The child should be allowed perfect rest without any disturbance. The affected limbs may be warmly wrapped.

(*b*) In case one side of the body is affected, the strong magnets should be applied—north pole to the palm of the affected hand and south pole to the sole of the affected foot. However, in case both the sides of the body are affected, the magnets should be applied to one side of the body in the morning and the other side of the body in the evening for 15 minutes at each sitting which may later be increased to

30 minutes. In case the child is below 12 years of age, it is advisable to use the medium-sized magnets instead of strong magnets. In addition, on alternate days, the magnets should also be applied to the appropriate acupuncture points TW-2 (at the junction of the 4th and 5th finger) and LI-4 (at the junction of the thumb and pointer finger)—north pole on TW-2 on the right side and south pole on the LI-4 on the left side, if the upper limbs are affected; while to the acupuncture points UB-60 (midway between the tip of the outer malleolus and the border of tendo-achilles) and UB-25 (over the 4th lumbar vertebra)—north pole over UB 25 and south pole over UB-60 on the same side or on both sides if the lower limbs are affected. While the position of UB-25 will remain unchanged, the position of the application of south pole to UB-60 may be adjusted on the left or right side depending on the side affected.

(*c*) The healing water should be taken regularly as it will not only provide strength but would also improve circulation of blood.

(*d*) Application of red-oil and sun-bath is highly beneficial in the acute and as well as chronic affection.

(*e*) At the later stage, physiotherapy exercises like moving the affected parts in a tub of water or cycling, etc, should also be carried out.

POLYPUS, NASAL

Polypus (plural polypi) is the name given to the fleshy growths occurring on one or both inner sides of the nose (*see* Fig. 29). Besides obstructing the normal breathing, the polypi may cause fever known as Nasha fever in certain children. The fever may be characterized by headache, coryza, blood-shot eyes and swollen mucous membrane of the nose. The nasal polypus is often a surgical condition and its removal may

make a difference to the patient's health and the mental out-look.



Fig. 29 Nasal Polypus

For the treatment of the nasal polypus, the ceramic magnets should be applied longitudinally over the nose—north pole on the right side and south pole on the left side. Immediate effect cannot be expected with the magnetic treatment, however, persistent use of magnets often yields desired results.

PYEMIA

The term pyemia applies to a condition in which there is a presence of pus cells in the circulating blood suggesting a form of blood poisoning. The disease is characterized by appearance of abscess in various parts of the body to which infection has been carried. The disease is caused due to entrance of certain germs into the general blood stream. Pyemia in slightly modified form is also known septicemia and sapremia—in the former the germs enter into and multiply in the blood, while in the latter the germs grow in the living tissues and their toxins are diffused into the body. Certain bacteria of the streptococcal or staphylococcal group are the main causative organisms for these type of conditions.

For treatment of these diseases, the strong magnets should be applied to the palms of hands in the morning and to the soles of the feet in the evening. In addition, the healing

water prepared only on north pole should be taken internally four times daily which will help the body in getting rid of the toxins and pus.

PYORRHOEA

Pyorrhoea is a disease of gums in which there is a copious discharge of pus. It is caused due to germ infection which destroys the healthy tissues and forms enormous amount of pus in the gums. The disease ultimately leads to loosening of the teeth which fall out. Besides affecting the gums and the teeth, the disease affects the general health of a person as the poisons are swallowed and are absorbed in the blood stream.

Pyorrhoea when affects the dental periosteum is termed as pyorrhoea alveolaris.

The persons suffering from pyorrhoea should pay more attention to the oral hygiene and should make use of the *Neem* stick atleast once during the day. They should also brush their teeth after every meal or atleast before going to bed, and take nutritious food especially fruits and vegetables rich in vitamin C. In addition, it is necessary to take a 50-mg vitamin C tablet daily (*see* also *Gums, Swelling and bleeding of*).

The north pole of a strong magnet should be applied directly over the cheek on the left and right sides in the morning and evening respectively.

A special healing water may be prepared by adding a little quantity of table salt to the clean potable water and placing the same over north pole for about 12 hours. This healing water should be used for gargling twice daily.

RHEUMATISM

Rheumatism is a disease marked by pain in joints or muscles—usually recurrent and often due to exposure. It may be a generalised or localised affection. There are different

types of rheumatism, namely, acute rheumatism which is also known as *rheumatic fever* and is common among children; chronic rheumatism; muscular rheumatism or myalgia; rheumatoid arthritis; and gout.

Acute rheumatism or rheumatic fever is an infectious disease which is accompanied by fever and serious complications like involvement of heart, chronic invalidism or even death.

Chronic rheumatism is generally designated simply as rheumatism and is a painful affection of joint and muscles. It may induce considerable stiffness of the joints. Later, bluish-red swelling of legs may appear in the long-standing cases.

Muscular rheumatism mainly affects the muscles and usually attacks middle-aged people Lumbago and rheumatism of the neck (torticollis) are some forms of the muscular rheumatism.

Immediately at the onset of the disease, the strong magnets should be applied to the palms of the hands and soles of feet in the morning and evening respectively. In addition, healing water should be taken four or five times daily. It is preferable to take healing water prepared on north pole in case of rheumatic fever. In simple rheumatism, application of red-oil and sun-bath affords great relief. As regards application of *magnets to the acupuncture points, the same may be carried* out as recommended for *Paralysis.*

RHINITIS

Inflammation of the mucous membrane of the nose is called rhinitis. This occurs in the common cold and mainly shows itself as nasal catarrh. In certain cases, rhinitis may occur as a result of allergy to pollens; foods such as eggs, meat; dust; feathers; cotton; etc. In that case, it is called allergic rhinitis. Due to the inflammation of the mucous membrane of the nose, there is a severe congestion and blockage of nose

leading to difficulty in breathing. In case of allergic rhinitis, there is an attack of sneezing which may last from a few minutes to several minutes, a discharge of thin watery fluid and a peculiar tingling sensation in the nose. The conditions are generally aggravated due to intake of heavy food and if the stomach is upset due to any reason.

It is necessary to keep bowels open and to avoid use of heavy and spicy foods.

The ceramic magnets should be applied longitudinally over the nose—north pole over the right side and south pole on the left side. This should be followed, at an interval of about 12 hours, by application of strong magnets to the acupuncture point Sp-10 (about 5 cm above the upper border of the patella)—north pole on the right side and south pole on the left side. The healing water should be taken every two hours.

RINGWORM

Ringworm is a skin disease caused by a type of fungus. It is marked by characteristic ring-shaped patches. It may appear either on the scalp or on the beard or palms and heels or on any part of the body.

In case of multiple ringworm affection on more than one parts of the body, the strong magnets may be applied either to the palms of hands or to the soles of feet depending upon the portion of the body affected. In case of the ringworm appearing on one localised spot, north pole of the ceramic magnet should be applied directly over it. Application of north-pole oil should also be done twice daily—one after the bath and other at bed-time. General care should be taken with regard to the use of brushes and towels as it is an infectious disease.

SCABIES

Scabies is a skin disease caused by an itch-mite which is a very tiny insect-like creature with 8 legs. The mite

affects the skin through the soiled clothes of a person suffering from scabies or through poor hygienic conditions. It burrows into epidermis at the end of which the vesicle appears. The eruption is intensely itching and sometimes oozes out thin discharge. This disease is highly communicable as well as contagious. It spreads from one organ to the other commencing usually between the fingers.

Proper attention should be paid to hygiene and avoidance of the use of towels, clothes, etc, of the persons affected with scabies.

The strong magnets should be applied either to palms of hands or soles of feet, depending upon the portion of the body affected. In case of babies and children, the ceramic or medium-size magnets may be used. The magnet may not be applied directly over the patch, however, the north pole of the medium-size magnet may be held about 2 to 3 centimetres above the patch for 5 to 10 minutes by which the emanations of the magnet would penetrate the skin and bring about the desired relief. In addition, north-pole oil or red-oil may also be applied locally.

SCALDS AND BURNS

Scald is a damage or an injury to the tissues caused by moist heat such as hot liquid, steam or gas, while a burn is an injury caused by dry heat such as fire, hot metal, the sun, or the lightening or corrosive chemicals (acids, alkalis). The effects of the scalds and burns are reddening of the skin, blister formation, intense pain and a state of shock The affected area may later turn septic due to infection. The gravity of the damage is gauged by the skin area involved. For instance, it is considered to be quite serious if one-third of the skin area is involved The management of the scalds and burns is as follows :

(*a*) The affected, area should not be handled with soiled hands; it is wise not to apply any lotions, etc. Also, in order to avoid further damage to the tissues the burnt clothing, etc, should not be forcibly removed.

(*b*) In case, a larger skin area is affected, which may suggest seriousness, the patient needs to be hospitalized immediately. However, as a first-aid, the strong magnets should be applied to the palms of hands or soles of feet (never directly over the burnt area) as the case may be.

(c) Later, in case of delayed healing of the scalds and burns, the strong magnets should be applied once daily and local application of blue-oil (north-pole oil in case of infection or sepsis) made.

SCIATICA

Inflammation of the supporting tissues of the sciatic nerve—the largest nerve in the body—is called sciatica. The condition is characterized by intense pain along the course of the nerve from the buttock to the ankle which is aggravated by bending the leg at the hip joint. This condition usually arises as a result of prolapse of inter-vertebral disc which then presses on this nerve. The pain originates in the lumbar region and also spreads to the foot. The prolapse of the disc usually occurs after strenuous exercise and generally in the people between 20 to 40 years of age. The condition is also aggravated due to exposure to cold or the upset stomach. In majority of cases, it occurs during wet weather.

In most cases, warmth and rest afford relief. Hence, hot fomentation with hot-water bottle or with dry substances like crystal salt, pebbles, etc, may be done.

The strong magnets should be applied—north pole to the point of origination of pain in the lumbar region and south pole to the ankle or to the sole of the feet. This application

should be followed, after an interval of about 12 hours, by application of strong magnets to the acupuncture points GB-30 (on the outer side of hip) and UB-40 (in the crease of the knee)—north pole to GB-30 and south pole to UB-40 on the same side.

Application of red-oil or south-pole oil as well as sun-bathing of the affected part also afford great relief.

SEPTICAEMIA

(*see* Pyemia)

SINUSITIS

Inflammation of sinus—cavities within a bone such as maxillary and frontal sinus of the nose—is called sinusitis. The inflammation of the sinus is generally due to infection of any of the sinuses namely maxillary sinus, frontal sinus, ethmoid sinus and sphenoid sinus which are situated in the bones adjacent to the nose and communicate with it. Sinusitis may occur as a result of exposure to cold or it may follow diseases like influenza or even due to tooth abscess. The chief symptoms of sinusitis are coryza, blockage of nose, dull pain in the forehead mainly above the eyes, sneezing and fever. The affected sinus may be painful to pressure. The condition is mainly surgical according to the physiologic school in which the puncturing of the affected sinus is done to drain out the pus. However, the condition recurs in majority of the cases.

The magnet-treatment comprises the application of ceramic magnets over the affected sinus, that is, either over the nose or over the cheeks, etc. In addition, the ceramic magnets may be applied over the acupuncture point St-8 (at the corner of the head within the anterior hairline) in case of frontal sinusitis; and to the acupuncture points St-3 (over the cheek) and SI-18 (just little above the St-3 point) in case of maxillary sinusitis. Medium-sized magnets may be used as each magnet

will cover both the points simultaneously. The magnets may be applied by placing north pole on the right side and south pole on the left side. Application of red-oil also affords great relief.

SLEEPLESSNESS

(*See* **Insomnia**)

SLIPPED DISC

Slipped disc or more appropriately known as prolapsed inter-vertebral disc (PID) is a condition in which the central portion of a disc (called nucleus pulposus) bursts through the outer ring—(annulus fibrosus). This results in compression of the nerves leaving the affected area leading to intense pain. The pain is felt not only in the area in the affected segment of the vertebral column mainly in the low back or lumbar region but it also extends to the limb governed by the compressed nerve. Sciatica is one such condition caused due to the slipped disc. Occasionally, the disc in the cervical region may also prolapse, due to an injury or accident, though it is rare.

The slipped disc is caused due to a sudden strenuous exercise especially after a period of rest and is common in the persons given to the sedentary life—it being more common in people between twenty to forty years of age. Many a time a sudden jerk in the back due to pulling up a heavy weight is sufficient to lead to this painful condition. Hence one should always bend at the knees, and not at the back, while lifting a heavy weight. The people suffering from this condition are liable to recurrent attacks of the slipped disc.

The trouble starts with an intense pain at the site of the slipped disc and inability to straighten up properly. There is considerable stiffness and pain on movement so that a person's gait becomes stiff and mechanical.

The person struck with the painful condition should take complete bed rest and should avoid lifting heavy weights.

The strong magnets should be applied—north pole to the affected area in the lumbar region (or in the cervical region as the case may be) and the south pole to the terminal point of the pain, that is knee or ankle or arm. The magnets should also be applied, about 12 hours apart, to the acupuncture points GB-30 and UB-40 (*see* also *Sciatica*).

Application of red-oil and sun-bathing also afford relief in pain and stiffness.

SORE THROAT

The term sore throat is given to any condition of the throat like tonsillitis and pharyngitis (inflammation of pharynx). The chief symptoms are : light or deep-red tonsils or pharynx and pain in larynx accompanied by hoarseness and temperature. Infection, exposure to cold, living under unhygienic conditions and constitutional tendency are the chief causes of the trouble.

The magnetic treatment comprises application of ceramic magnets on the outside of the throat and gargling with saline healing water (for details of preparation *see* under *Pyorrhoea*) or with weak tea decoction without sugar and milk.

SPLENITIS

Splenitis is the condition of inflammation of spleen which is accompanied by pain and tenderness. It is caused due to many diseases like malaria, kala-azar, syphilis and cancer and generally results in the enlargement of the spleen (splenomegaly) and anemia.

The strong magnets should be applied to the splenic region just over the last ribs on the left side. The north pole should be applied to the front side and the south pole just opposite on the back. The healing water should be taken four times daily. Application of red-oil affords relief in pain.

SPONDYLOSIS

The term spondylosis signifies a condition of the spine in which the inter-vertebral spaces get narrowed and the

formation of the new bone from adjacent vertebrae takes place. The bony changes impinge on the nerve passing through these spaces causing pain, stiffness and restricted movement of the spine and the organs which the affected nerve supplies.

The most common form of spondylosis is the cervical spondylosis in which the lowest three of the seven cervical vertebrae are mainly affected. This is similar to the lumbar spondylosis. The cervical spondylosis may be caused due to injury or simply be a wear and tear of the joints with the increasing age. It is also triggered on due to faulty posture in writing, reading, sitting or painting. The degenerative changes occur both in the inter-vertebral disc and the joints. The changes in the disc result in slow loss of substance and the space between the vertebrae gets narrowed (*see* Fig. 30). The

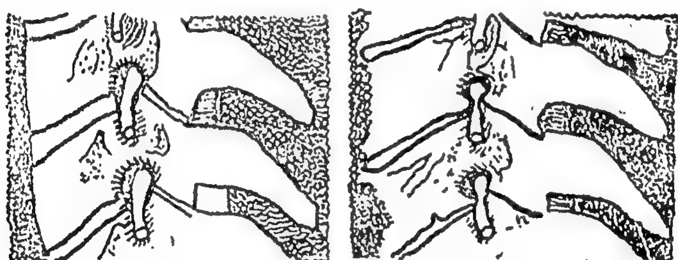


Fig. 30 Bony changes in Cervical Spondylosis.

conditions like diabetes and hypertension tend to aggravate the condition. Generally the pain is felt not only in the neck but also in the shoulder along the course of the arm reaching the fingers. This is also accompanied by considerable stiffness and a tingling sensation. The disease may sometimes be complicated with the involvement of the spinal cord in which case all the four limbs may be affected.

The spondylosis can best be detected by an x-ray of the neck.

The routine treatment of the spondylosis involves the use of analgasics, physiotherapy like traction and exercise, dia-

thermy, radiant heat and massage. In severe cases of pain when it is necessary to provide rest to the affected portion of spine, the patients are advised to use neck-collars.

Magnet-treatment offers one of the most assured modes of relief in this painful affliction and reduces pain and stiffness ensuring better movement of the spine. The management of this disease involves the following steps:

(a) The strong magnets should be applied—north pole to the affected vertebra in the neck and south pole to the terminal portion of the pain, that is, shoulder or elbow or the hand. The magnets should also be applied, about 12 hours apart, to the acupuncture point SI-3 (*see Neck, Stiffness of*). The treatment should be supplemented with the use of healing water.

(b) The use of red-oil and sun-bathing of the spine afford great relief in pain and stiffness.

(c) Exercise of the neck by rotating it slowly—sideways, forward and backwards—helps in reducing the stiffness.

(d) The patient should sleep on a moderately hard bed and a thin pillow.

Another related but more severe affection of the spine is called ankylosing spondylitis which is an incurable condition. Initially, the disease begins with the inflammation of the sacro-iliac joints (joints where the tail bone or sacrum is joined to the pelvic girdle). The disease then gradually leads to the painful stiffening of the whole spine with the result that the patient is unable to bend and becomes rigid in his or her posture. Sometimes the patient may not be able to look even sideways, and becomes typically round-shouldered. Eventually, the bones of the spine, through their out-growths, may connect one joint to the other and the whole spine may be as stiff as a wooden board.

Interestingly, this disease effects the young people who may develop recurrent back troubles.

While the analgesics and physiotherapy are the main stake of the physiological school in the treatment of the ankylosing spondylitis, the magnet-treatment offers an assured relief to the unfortunate sufferer. The management of this disease should be as follows :

(*a*) The strong magnets should be applied to the spine—north pole to the neck and the south pole to the tail-bone or sacrum (*see* Fig. 31). Before the application of magnets, south-pole oil should be applied to the spine over which a thin cloth should be spread.

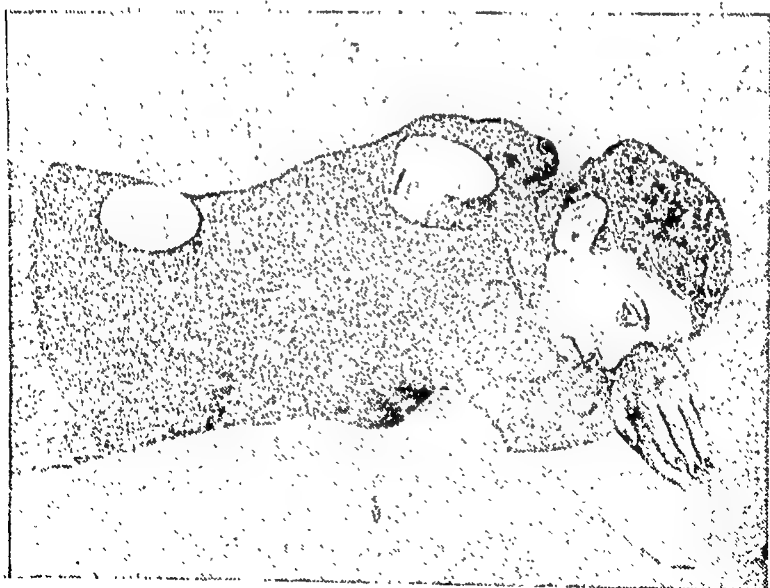


Fig. 31 Application of Magnets in Ankylosing Spondylitis.

The above treatment should be supplemented by the application of the magnets to the acupuncture points UB-25 (over the 4th lumbar vertebra) and UB-40 (in the fold of the knee). The north pole should be applied to UB-25 and the south pole to UB-40 below the right knee on one day and below the left knee on the other day.

(b) Application of red-oil and sun-bathing of the spine is essential for mitigation of pain and stiffness.

(c) Exercises like touching the toe, bending the upper body backwards, bending sideways and twisting the body sideways are helpful in maintaining the flexibility of the spine. These exercises should be carried out on the instructions and under the supervision of an experienced magnetotherapist or physiotherapist.

SPRAINS AND STRAINS

A sprain is the wrenching and subsequent over-stretching and tearing of a ligament (bands of strong fibrous tissue holding together the ends of bones in a joint). There is bleeding and weakness of a joint due to the tearing of the ligaments and the membrane lining. The joint becomes inflamed and painful. Ultimately the blood is reabsorbed from the tissues and the healing takes place. The main symptom of a sprain is pain and swelling of the joint with inability to move the joint without a terrible aggravation of the pain In the event of the sprain a firm bandage should be applied to the affected joint and movement should be restricted; while in the case of sprain of ankle which is by far the most common, the boot or shoe should be allowed to remain on the foot and an additional support by a firm bandage in the shape of '8' be provided to the foot or the shoe.

A strain is the over-stretching of a muscle or a tendon generally leading to tearing of the muscle fibres The muscle is said to be ruptured if the whole sheath of muscle is involved.

The main symptoms of the strain are sudden sharp pain at the place of the injury, swelling of the affected limb, and inability to stand upright in case of strain of the back.

The magnet-treatment of the sprains and strains involves an immediate use of the strong south pole of a magnet over the seat of injury and massage with south-pole oil. The affected limbs should be given proper rest avoiding unnecessary movement.

STOMATITIS

Inflammation of the mouth or the oral mucosa is called stomatitis. The most common forms of stomatitis are aphthous stomatitis meaning inflammation of the mucous membrane of the mouth along with vesicle formation; and the ulcerative stomatitis in which shallow ulcers accompany the inflammation of the oral mucosa including the gums, the palate and the tongue. The mouth looks red and ulcerated and emits foul odour. The disease is generally caused due to digestive disturbance, intake of very hot or spicy food, lack of oral hygiene and measles.

The strong magnets should be applied to the palms of hands which will help in correcting the faulty digestion. In addition, the healing water should be taken internally, four or five times daily. Gargling with north-pole healing water is highly useful.

SWELLING OF LEGS AND FEET

Swelling of legs and feet is generally indicative of some affection of the urinary system such as nephritis in which poisonous materials circulate in the blood and lead to the puffing up of the body (*see* also *Nephritis*). Hence, all precautions such as avoidance of intake of salt, and flushingthe kidneys with proper intake of water and other fluids is necessary. The swelling of legs and feet is also seen in some women during pregnancy.

The strong magnets should be applied to the soles of feet, followed 12 hours apart, by the application of magnets to the acupuncture points K-3 (midway between the tip of the inner malleolus and the tendo-achilles) and Sp-9 (in the depression below the patella of the knee on the inner side of the leg)—north pole on the Sp-9 on the right leg and south pole on K-3 on the left foot. In addition, the healing water should be taken 4-5 times daily.

TONSILLITIS

Inflammation of the tonsils is called tonsillitis. It may either be acute or chronic. The acute symptoms comprise fever, sore throat, headache and inflammation and redness of tonsils which can be observed visually. There may also be hoarse voice and foul breath. Sometimes the tonsils may be so inflamed that swallowing of the solids or liquids may be quite painful. The accompanying symptoms are : coated tongue, fauces covered with tenacious mucus, and high-coloured scanty urine as well as constipation. The chronic tonsillitis includes such condition as enlarged tonsils which may affect the general health of a person. Tonsillitis is a regular symptom of scarlet fever, measles and diphtheria. It has also been observed that a close correlationship exists between tonsillitis and rheumatic fever or chronic rheumatic pains in joints and muscles. The acute tonsillitis is common during change of weather especially before onset of winter and summer. Factors which predispose a person especially a child to this affection are general ill-health, atmospheric conditions, faulty diet, escape of sewer gas from defective pipes and infection carried out by milk or water.

The management of tonsillitis involves the following steps :

(a) Ceramic magnets should be applied locally (*see* Fig. 32). The strong magnets should also be kept over acupuncture point LI-4 (at the junction of the thumb and the index finger



Fig. 32 Application of Magnets in Tonsillitis.

on the dorsal side of the hand)—north pole on the right hand and south pole on the left hand. Gargling with the noth-pole healing water affords great relief. Blue-oil should also be applied locally (on the outside) which reduces inflammation and pain.

TOOTHACHE

(*see* **Gums, Swelling and Bleeding of**)

TYPHOID FEVER

Typhoid fever or enteric fever is an infectious fever characterized by fever of distinctive type, eruption of rose spots, enlargement of spleen, abdominal discomfort and bowel disturbance. The fever is caused by the bacteria known as *Bacillus typhosus* which multiply quickly in milk and butter but are killed by boiling water.

It is transmitted from the diseased person to the healthy through saliva, faeces, urine, as well as through contaminated water, milk, ice-cream, sewage-contaminated food, flies, etc. The bacteria on entering the body produce toxins which are absorbed by the blood and circulated to the organs like nervous system thereby producing septicaemia.

The fever starts with headache, vomiting, chilliness, lassitude, loss of appetite, muscular pain and drowsiness. The tongue becomes furred, the mouth dry and the bowels either loose or constipated. The gastro-intestinal tract becomes distended and tender. The characteristic fever of typhoid with morning remission of about 1 to 2°C is present.

With a view to prevent this serious infection, cleanliness in and around the house should be maintained. In case any member of the family is suffering from typhoid fever, adequate disinfection of the faeces, urine, the vomit and sputa should be done with phenel 1 : 20 or two percent lysol. As for the diet, the patient should be kept on liquid diet mostly milk and fruit juice. Gradual addition of custard and bread crumbs may be allowed after the temperature has been normal for 3 days. The patient should be given bed rest.

The strong magnets should be applied to the soles of feet once daily in the morning followed in the evening by application of the magnets to the acupuncture points LI-11 (at the lateral end of the elbow when it is flexed) and GV-14 (in the back midline just below the vertebral prominence, that is, on the 7th cervical vertebra)—north pole on the latter and

the south pole on the left elbow. The healing water should be prepared by placing a clean bottle or a tumbler filled with boiled and cooled water over the north pole and taken every two hours. The application of blue-oil to the temples affords relief in high temperature.

URTICARIA

Urticaria or nettle rash is an allergic disease characterized by appearance of flat elevated patches or weals on the skin. The eruptions are intensely itching in nature. Generally, the condition comes on suddenly and disappears suddenly in a few hours or days. The disease in mainly caused due to hyper-acidity and eating of some type of fish especially shell-fish like lobsters and crabs.

Generally, a tablespoon of kitchen soda in a tumbler of water taken orally gives considerable relief. The strong magnets should be applied to the palms of hands, followed 12 hours apart, by the application of magnets to the acupuncture point Sp-10 (about 5 cm above the upper border of the patella on the inner side of the thigh)—north pole on the right side and south pole on the left side. The application of magnets to the acupuncture point Sp-10 is also recommended for any type of allergy like asthma and rhinitis.

In addition, the healing water should be taken four times daily.

In case of intense itching, the application of blue-oil affords great relief.

UTERUS, INFLAMMATION OR TUMOURS OF

Inflammation of the mucous membrane of the uterus is known as endometritis; that of the muscle—metritis; and of the tissue surrounding the uterus—perimetritis.

Sometimes, tumours of sizes varying from lentil-seed to enormous mass weighing several kilograms are found in the

uterus. These may be benign or malignant. The main symptom of the tumour in the uterus is the abnormal discharge of blood.

The north pole of a strong magnet should be applied over the area of the uterus. The healing water should also be taken thrice daily.

VOMITING

Forcible ejection of the contents of the stomach through mouth is called vomiting. It is generally preceded by nausea or a feeling of sickness. There are numerous causes of vomiting, namely, irritation of stomach due to decomposed or contaminated food or even uneatable food, intake of excessive amount of alcohol and certain poisons. Yet another cause, especially in children may be pyloric obstruction after a heavy meal. It is also a symptom in a number of diseases like Menier's syndrome, strangulated hernia and appendicitis. The strong magnets should be applied to the palms of hands. The healing water should be taken four times daily.

WOUNDS

Any interruption of the continuity of an external or internal surface of the body caused by violence is called a wound. It is generally accompanied by haemorrhage and entry of the germs. There are different types of wounds, namely, incised —caused by a sharp cutting instrument like a razor; lacerated —in which the tissues are torn by such things as machinery or claw of an animal; contused—caused by a blunt object or by crushing; and punctured—one made by a pointed instrument such as a needle or a knife.

The bleeding wounds should be treated by elevating the affected part, except in case of a fracture, and removing the visible foreign bodies. The blood clots should not be disturbed, but any bleeding can be stopped by the well-known method

of applying direct and indirect pressure over the pressure-points.

The magnet-treatment should be taken by applying strong magnets to either the palms of hands or the soles of feet depending upon the seat of the wound. The local application with strong magnets can also be given by holding the north-pole magnet about 2-3 cm above the wound which helps in quick healing of the wound and checking the sepsis.

The north-pole oil should also be applied to the wound twice daily.

12

Cases Treated with Magnets

During the past several years of treatment with magnets, numerous cases of different diseases have been effectively cured; while in some intractible cases like those of ankylosing spondylitis, paralysis, rheumatoid arthritis and leucoderma, desirable relief has been brought to the unfortunate sufferers. Reports of such cures are pouring in from many countries like USA, Japan, Puerto Rico and from all over this country. In many cases, the response to magnet-treatment is so overwhelming that sometimes it is incredible for the laymen and the physicians and adds to their confidence in this art of cure. Some of these cases, which are only representative of many *such cases cured* by the author are given here for the benefit of the reader.

Case 1

Rheumatism of shoulder. An old man of 65 came to me for the treatment of his painful right shoulder through magnets. He narrated his tale of woe and the harrowing experience he had gone through in USA *for the elaborate* diagnosis and treatment of this painful affliction. In the past severe winter in Chicago where he lived with his daughter, he developed severe inflammation and pain in right shoulder, which later travelled down to the elbow and the fingers. He

could not lift his arm and had to live on analgesics. He was admitted to the hospital, where the most sophisticated diagnostic techniques drew blank. After footing the exhorbitant bill for $ 2000, he was told by the surgeons, "you will have to live with it, as your bones have grown as old as you are". Ridiculous indeed ? In utter disgust he returned to India to live with his son in Delhi. "But for this trouble I would never have returned to India. I like that place. It is good for old people to live comfortably on the government pension," he confided in me. Even when he entered my clinic, there was painful swelling on his entire right arm. After careful examination of the points of origination and termination of pain, effect of different movements of the arm on the pain, as well as eliciting information relating to other systems of the body, I decided to put him on to magnets.

He was instructed to apply high-power north pole to the right shoulder and the south pole to the palm of right hand for 15 minutes daily and to report after a fortnight. In addition, the sun-bathing of the affected portion by using red-oil and red cellophane paper was advised. There was no greater joy for the old man than to find the swelling gone first from the hand and then gradually from the elbow and the shoulder. However, the stiffness and pain in raising the arm continued. He was advised to continue the use of magnets further for a period of one month as well as the sun-bathing. That put the old man on the road to perfect recovery. However, during an extraordinary severe winter, he developed pain and stiffness again on sudden exposure to cold one night. The magnets were used again for a fortnight. It has been more than 4 years now and the old man has had no recurrence of the so-called incurable trouble. It is sometimes a matter of immense joy for the physicians to watch such brilliant cures so that it reaffirms their faith in the nobility of the profession and the wisdom of the mother Nature.

Case 2

Sciatica One evening a middle-aged lady of 45 summoned me to her residence as she could not stand the terrible unbearable pain of sciatica in the left leg. "I would rather like to die than bear this excruciating pain"—her heavy and agonizing voice echoed in the room, as I entered. That was one of the most restless patients I have ever come across in my practice. She did not find *relief in any position, with the* result that she kept tossing in the bed—sometimes sitting, sometimes stooping and so on. According to her, she had not slept for two consecutive days and two nights. She narrated that the trouble had started in the right leg about 6 months ago when she was treated at the local hospital. Though the pain and stiffness remained checked for 4 months, it suddenly erupted about 2 months ago and has assumed the present *ugly shape inspite of the heavy doses of pain-killers* and injections. The examination revealed that the whole leg was slightly swollen red and hot with a considerable tenderness at the calf. The pain originated in the lumbar region and travelled down to the foot. Hot fomentation [illegible] pressure made her feel better momentarily. Southern [illegible] was applied to the leg over which the high-power [illegible] magnets were applied—north pole in the lumbar [illegible] south pole to the sole of *left foot. After* [illegible] 15 minutes, *she felt drowsy and slept* [illegible] suggesting the positive soothing effect of [illegible] Her pain was slightly reduced and came [illegible] ever the calf continued to be stiff [illegible] advised to apply south pole to the [illegible] sleep in cat-naps. However, next day [illegible] part and application of *magnets* [illegible] which continued unabated. She [illegible] trouble on the fourth day and [illegible]

tried all systems of treatment without any appreciable improvement, she had learnt to compromise with the incurable enigma. According to her, more she used the medicine, worse her trouble became. As she could not undertake any journey, I was requested to examine her at her residence, which I most gladly agreed. She had the typical posture—round-shouldered and stooped back. Any slight jerk sent unbearable shock through her entire frame resulting in an intense pain. I explained to her that the condition was incurable (but could have been cured in the beginning of the trouble) and she had to put up with it. However, the pain and stiffness can be reduced to a considerable degree under the magnet-treatment. She was advised to use the high-power magnets—the north pole in the neck (cervical region) and the south pole in the low back for 15 minutes daily which should be gradually increased to half-an-hour in a month's period. In addition, the sun-bathing of the back using red-oil and red cellophane paper, as well as the use of healing water were advised. Within a fortnight she got very encouraging results—the pain and stiffness reduced considerably and a hope for living kindled in her heart. She became more convinced about the benevolent effect of magnets and, therefore, used the magnets more vehemently. She was then asked to discontinue the regular use of magnets and make it need-based, but to continue the sun-bathing. What can be a more joyful solace for a patient crippled with such a disease than to find a friend in need to bring an assured relief in the time of agony.

Case 4

Paralysis. My 65-year old mother-in-law had a sudden stroke of paralysis on right side of the body. The paralysed parts were cold and there was a marked foot-drop. She was unable to move. Her arm remained slightly twisted and fingers drawn up. She was completely bed-ridden and had to be physically carried to the toilet, etc. As the allopathic doctors

felt that no improvement could be possible at that age, it was decided to resort to the treatment with magnets so that at least she should be able to move about and could go to the kitchen and toilet, etc, Two strong magnets were applied to both her feet in the morning for 15 minutes, and to her palms in the evening for 15 minutes. The treatment was given to her in supine position which was easy and more comfortable for her. In addition, massage with red-oil and the sun-bathing were advised. After about three months of regular treatment she was able to sit and move to the kitchen and bathroom alone with the aid of a stick. It was not only astonishing for her husband but also for me as the fast recovery [illegible] advanced age could not be expected and is general[illegible] ed in most cases. However, in this case, possibly [illegible] ordinary strong will-power helped her [illegible] Instances of this kind reinforce the faith of a [illegible] patient in the almighty who has created [illegible] power in a simple substance like a magnet.

results and even after about one-and-half years she is able to walk properly and do the household work.

Case 6

Leucoderma. A young lady of 27 wrote to me from Bangalore that she was distressed with the white patches below her knees and on her arms. Being a young lady of marriageable age, she felt awkward with this trouble and sought advice on treatment with magnets. Incidentally, I have had maximum number of cases of leucoderma from Bangalore and almost all cases have responded very well to the magnet-treatment.

While giving the history of her case, she informed that at the age of 18 she started noticing that every hurt she got while playing turned to a white patch and that is how the patches had spread to the legs and arms.

She was advised to use strong magnets twice daily—to the palms of hands in the morning and to the soles of feet in the evening. She was also advised to take healing water regularly. To her great surprise, after merely a month's treatment, the magnets started showing results. Her patches started getting pinkish and reducing in area and she joyfully exclaimed in her next letter, "thank you very much for inventing a healing magnet for leucoderma, it started showing results in a month's time. Splendid !"

Case 7

Asthma. A young lady of 35 was a chronic patient of asthma and suffered periodically from acute attacks of this dreadful disease—especially during the change of weather, as is generally the case with almost all types of allergic complaints. She had taken treatment at Patel Chest Institute, New Delhi where elaborate tests on sensitivity were carried out and she was de-sensitized against certain types of allergins on a number of occasions. She was also quite often put on allopathic

treatment in acute cases and had reached the so-called ultimate in the treatment with allopathy, that is, steroids. Reading some stray cases with the treatment of magnets, she approached me for advice in her case. The application of strong magnets to the palms of hands was recommended. She was also advised to take healing water about 4 times daily. After about a month's treatment she reported that her respiration was more free and she felt less tired on walking which otherwise resulted in gasping. The interval between her attacks also increased suggesting positive affects of magnets on oxygenation of lungs. Presently, she is continuing the treatment with good results.

Case 8

Dysuria. A middle-aged man knocked my door early in the morning, as he felt intense pain in passing urine which was too scanty and came out only in drops. He informed that around 3 o'clock in the morning, he felt an urge to urinate which was unusual. However, as he tried to pass urine, not a single drop came out. He also felt pain in the urinary bladder region. Immediately on hearing the complaint, I gave him a bottle of healing water with the instructions to take 50-ml doses every half-an-hour for 2-3 hours and then later to increase the interval to two hours. He was also given magnet-treatment by applying the north pole over the bladder region and south pole directly opposite in the back and was asked to report when there was some improvement in the quantity of urine and the flow was little free. He was advised to continue the intake of healing water every two hours. By the evening, he was normal—with free flow of clear urine and absence of pain in the bladder region during urination. The healing water has always come up to my expectations in the urinary trouble like renal colic and dysuria. The patient went back happy and assured because he found a simple and handy treatment for such a dreadful complaint. I have seen many bright cures of this type in my long practice of Magnetotherapy and have,

therefore, gained sufficient faith in the treatment of such troubles where the cures exceed the expectations of the patient and the promptness with which the patient recovers is really astonishing.

Case 9

Dymenorrhoea. A young girl of 19 approached me shyly for treatment of her intense pain during menstruation. She informed that she was working in a government office and was forced to take casual leave every month for two-three days owing to the unbearable pain. On an inquiry, it was learnt that her menses were still three-four days ahead and, therefore, she was advised to immediately resort to application of magnets—north pole about 5-7 cms below the navel and south pole right opposite in the back. In addition, she was advised to have general application, 12 hours apart, by applying the strong magnets to the soles of her feet and also to take healing water regularly. After about 10 days she informed that the pain was decidedly much less than she experienced on the earlier occasions. She was advised to continue the treatment for about 3 months more once daily by general application only and to take on to the local application about a week before the expected date of menstruation. The treatment brought her considerable relief in the pain though she felt very mild pain after about 3 months of application.

Case 10

Eczema. A young boy of 17 suffered from weeping eczema on his tibiae. At the time of his visit to my clinic, there were thick crusts on the legs through which thick pus and blood oozed out at a number of places. He said, "Doctor saheb, I have tried all methods of treatment and have spent a fortune on this troublesome disease, but without even a little relief." I assured him that the new scientific therapy based on the natural laws will surely help him by relief and ultimately cure.

He was advised to apply strong magnets to the soles of his feet for 15 minutes every day and also to take healing water in 50-ml doses four times daily. He being quite serious about the treatment, followed the instructions religiously for about a month which to his astonishment dried the eruption, and there was much less discharge of pus and blood. He was asked to continue the treatment for one month more, which wiped out the trouble completely. It has been more than 2 years and not a single eruption has returned—corroborating the indomitable truth behind the curative action of magnets

Case 11

Sinusitis. A 9-year old girl suffered from recurrent attacks of sinusitis with the common symptoms of nose blockage, tenderness in the frontal sinus and headache just above the eye-brows. The girl looked dull and was running slight fever when she called on me. One sitting with the north pole of the ceramic magnet was given right there and then. The red-oil was applied to her forehead which was then covered with a handkerchief, and the magnet was placed over it for 15 minutes. She was advised to take the second sitting after 12 hours and also to take healing water, a bottle of which was given to her. Next day, she reported that there was improvement in the headache and that she could breathe through the nose more freely. After 3 days' treatment, she got rid of the nasty trouble. Her mother was advised to give her 2-3 sittings with the magnet every month and to continue the intake of healing water for about a month. After 3 months, the girl got over the recurrent trouble and is now hale and hearty.

Case 12

Cervical Spondylosis. An old man of 55 with a medium build was suddenly struck at midnight with a severe pain in his neck which extended to the shoulder and down the right arm. He woke up his family members who got nervous at the sudden painful affection. Wondering as to whom to call at that un-earthly hour, his younger daughter suggested that he use the

magnets as a first-aid till the family could decide about the right course. Luckily, she had the strong magnets handy as she herself had undergone the treatment for leucoderma under me. The old man agreed to the proposal and applied the north pole to the most painful area in the neck and the south pole to the palm of the right hand. After about 10 minutes of application, the pain subsided considerably. The time was extended to 10 minutes more which completely relieved the pain thus ruling out the need for an emergency visit by a medical man. What can be more convincing and assuring than to find a useful tool handy in such uncanny situations. The patient himself narrated this experience to me when he next visited me along with his daughter.

Case 13

Amenorrhoea. A young married woman of 28 consulted me for magnet-treatment for her chronic amenorrhoea (absence of menses). She was married for the past 5 years and her menses had completely ceased after an abortion barely 7 months after marriage. She was not pregnant either. She was hot-tempered and perspired profusely especially on her face. She had been taking allopathic medicines which forcibly brought the menses as long as she continued the medicine. As she was living in South India, she bought strong magnets for a regular treatment at her home. She was advised to stop all the medicine and use the strong magnets in the following manner :

In the morning, the north pole should be applied about 7-8 cm straight below the navel and the south pole right opposite in the back (which also covered the acupuncture point UB-23), followed in the evening by application of the magnets to the soles of feet. The application should last for 15 to 20 minutes and should be taken with due regard to the precautions. She was also instructed to take the healing water thrice daily.

After about a month, she wrote to inform me that she got her menses whenever she applied the magnets which continued as long as the application was continued. She obviously over-reacted to the magnets and hence was advised to discontinue the local application and to continue only the general application to her feet only once on alternate days. This controlled her over-bleeding. The following months brought her scanty but regular menses. She also reported that temperamentally she had turned more mild. Presently, she continues to be under the care of the magnets with good results.

Case 14

Tonsillitis. My 5-year old daughter developed acute tonsillitis after she got drenched in a heavy down pour. She developed pain in throat, headache and hoarse cough and declined to accept any drinks or eatables. On examination, I found that her right tonsil was more inflamed than the left one and the fauces were crimpson-red. I immediately applied blue-oil on the outside below the jaw bone and placed the ceramic magnets over it—north pole to the right and south pole to the left. The application was repeated in the evening. After 4 such applications the pain, inflammation and redness reduced considerably and she accepted semi-liquid food. She also could sleep well at night without much disturbance from cough. She was perfectly well after 2 more applications. No bitter medicines, no antibiotics or throat paints—just two small magnets did the trick. And the child was happy too.

Case 15

Mumps. An eleven-year old boy was brought to me by his father for treatment of the painful swelling below his jaw angle. On examination it was found that the parotids were swollen and palpable and the boy experienced intense pain on opening the mouth, suggesting the attack of mumps.

Blue-oil was applied to the glands to reduce pain over which the medium-size magnets were placed for 15 minutes.

Another sitting was advised in the evening. After 5 such applications, the pain and swelling subsided and the boy could open his mouth with considerable ease. The boy was also spared of the possible complications like orchitis. The case was dismissed with the instructions to continue the treatment for 2 days more which cured him of the painful disease. Paracelsus, the Swiss alchemist and physician observed about 500 years ago that the magnet had a powerful influence over inflammations and all internal and external diseases. I add : the magnet is an enemy of pains and inflammations—internal and external.

Case 16

Backache. I was requested to visit a lady patient at her residence as she had the worst ever attack of backache and hence was bed-ridden. On entering the room, I noticed that she was lying on her abdomen in a most painful condition and was growling with each breath. I was informed that she had mild attacks of backache just before her menses, but the present attack was unbearable. She could not turn in the bed. On examination, I found that the lower lumbar region was hot and red and the pressure and fomentation with hot-water bottle was quite soothing to her.

Immediately, I applied the blue-oil on the back followed by the application of strong south-pole magnet. After about 10 minutes, she felt drowsy and went into sleep. The magnet was removed after a further period of 10 minutes. When she woke up after 2 hours, she was delighted to find that the pain was considerably reduced. Another application was suggested after 12 hours. After 3 applications, her pain and redness of back were almost completely relieved. She was advised to take to magnet-treatment for a week every month preceding the menses. She had no more pain or stiffness of back and expressed her joyful gratefulness to the almighty who has endowed the man with the priceless gift of magnetism—the omnipresent and omnipotent tool.

Case 17

Blood Dysentery. A young man of 20 suddenly developed cramping pain in the abdomen and painful urging for stools which turned out to be dysentery. He was horrified to find profuse blood and mucus in the stools and immediately rushed to me for help. According to him, the trouble started after a heavy drinks party which he attended 2 days ago. I was tempted to give him a dose or two of homoeopathic medicine to check the blood. However, having full faith in the benevolent effect of magnets, I advised him to apply the north pole of a strong magnet to the umbilical region and the south pole to the acupuncture point St-37 (about 15 cm below the outer depression under the patella) on the right leg followed 12 hours apart by application of the north pole to the umbilical region and the south pole to St-37 point on the left leg. He was also advised to take the healing water every one hour. After about 18 hours he was substantially relieved of the tenesmus and blood in stools. Overjoyed, he continued the treatment for 2 more days which saw the end of the horrible disease.

Case 18

Sprain. My uncle aged 58 years developed a severe sprain in his back on waking up one morning. He could hardly get up from his bed and therefore lay quietly as any movement aggravated his condition. A hot-water bottle was provided to him which brought some relief. Soon after, the south-pole oil was applied to the affected part and a strong south-pole magnet was placed under his back and was allowed to remain there for 15 minutes followed by another sitting in the evening. After four sittings, he recovered fully from the painful affection.

Case 19

Stiffness of Neck. A young man of 35 developed sudden painful stiffness of neck after he kept lying on a high pillow at

through his spine. The south-pole oil was applied locally and a strong magnet was placed over the neck, followed 12 hours apart, by application of the strong north and south poles on the acupuncture point SI-3 (on the outer margin of the palms, about 5 cm below the root of the little fingers). After 36 hours, the pain and stiffness of the neck improved greatly and he was able to move about without much pain. After two additional sittings, he was completely relieved of the stiffness and pain.

Case 20

Blood Pressure. An elderly man about 72 years of age was suffering from high blood pressure, which frequently went as high as 220/140. He was placed on the routine allopathic medicines. He also complained of headache and numbness in his right arm. Being quite old, he preferred to lie down in the bed rather than to go for a walk or to move about. A pair of strong magnets was given to him for application to the palms of hands and also to prepare the healing water for taking four times daily. He was also advised not to stop the allopathic medicines suddenly but to reduce the dosage gradually and to finally stop these in a period of one month.

After the treatment with magnets for a month, he felt much better and had a desire to go for a walk in the evening. On an assurance that he could walk and would not fall which he feared, he continued with his evening walks. The blood pressure dropped to 180/110. After the continuous use of magnets for 6 months and intake of healing water the blood pressure further dropped to 160/95. He has no untoward feeling and continues to be in perfect health without the use of any medicine.

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